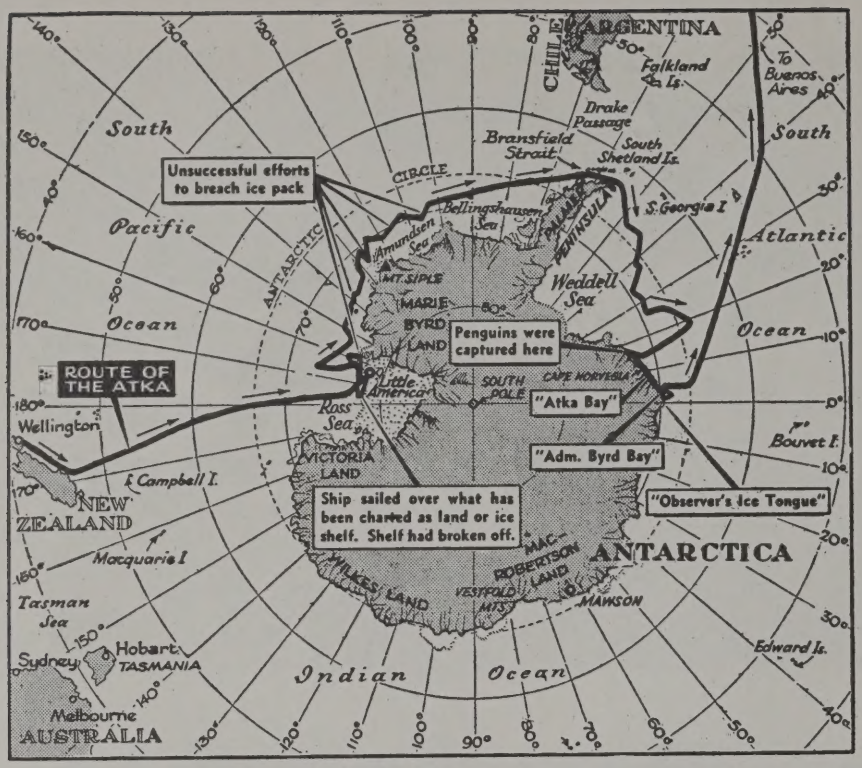
6/55

THE POLAR TIMES

The New York Times (by Walter Sullivan). © 1955, The New York Times Company

IN THE ANTARCTIC: The Navy's icebreaker Atka is moored fast to ice in Admiral Byrd Bay. Discovery of this bay was a major achievement of the expedition, for the site is well suited to larger expedition planned for 1956.



HERE is Antarctica: a continent some 6,000,000 square miles in area, nearly as big as Europe and Australia combined. It is *terra incognita*—most of it has never been seen by human eye. It is a land utterly foreign to most men's experience. It is inhospitable, unpredictable, a region of unknown dangers.

Because Antarctica is such a challenge, men will go on daring its hazards until they learn what they need to know. Two-score nations are planning now to conduct coordinated terrestrial and meteorological studies in a program designated International Geophysical Year 1957-58.

To prepare for the United States' part of that program, a 6,500-ton Navy icebreaker named the Atka has just completed a survey that has probed the way for another expedition next year.

On these pages appear photographs taken by Walter Sullivan of The New York Times, the only correspondent aboard the Atka. Mr. Sullivan had also covered the Byrd expedition of 1947.

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The Atka noses into the unknown, skirting ice front of unsailed portion of Antarctic coastline. Ship's gun is at left.

The Polar Times

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No. 40 JUNE 1955.

ANTARCTIC FLIERS BUFFETED BY GALE

Storm at Wellington Almost Blows 2 Helicopters, With Expedition Heads, to Sea

WELLINGTON, N. Z., Jan. 3—The two leaders of the United States Navy's expedition to Antarctica were almost blown out to sea today when two helicopters in which they were riding were caught in a sudden gale.

The two machines had taken off from the Navy icebreaker Atka to give a demonstration at Tauherenikau where a large part of Wellington had gathered for the races. Neither made it.

On a sheep station at Wairarapa two children who had grown up on space-ship comics looked out of a window of their home. They rushed in wild excitement to their father, Jim Simmonds, who also was startled to see a whirling contraption slither over the trees into his yard.

The man who stepped out wore a strange, shiny yellow helmet. "Pardon me," he said, "could you direct me to the race course?"

Mr. Simmonds recovered from his astonishment and brought up a tractor to use as an anchor to hold down the helicopter in the gale until more conventional gear could be brought from the Atka.

This helicopter had been piloted by Lieut. Homer W. Maccaw Jr. with Lieut. Comdr. Francis E. Law, the ship's executive officer, as passenger. Turbulence over the sea almost upset the helicopter several times.

Meanwhile, the other helicopter, with Comdr. Glen Jacobsen, leader of the expedition, was being carried seaward. Lieut. John Moore was at the controls. They estimated that the wind reached gusts of eighty knots; the machine could do only sixty-five. They finally maneuvered into the lea of some mountains and returned to the ship.

AUCKLAND, N. Z., Saturday, Jan. 1—The United States icebreaker Atka arrived at Wellington this morning. She will load stores until Jan. 7, when she sails for a fifty-four-day research visit to the Antarctic.

The Atka was met by Lieut. Comdr. W. Willis on behalf of the New Zealand Government.

Among the first to board the Atka were A. Helm, secretary of the New Zealand Antarctic Society, and Dr. E. I. Robertson, director of the geophysics division of the New Zealand Department of Scientific and Industrial Research.

The Atka Sails on Antarctic Survey

ABOARD U. S. S. ATKA, Off Wellington, New Zealand, Friday, Jan. 7—This United States Navy icebreaker sailed today for Antarctica, opening a period of exploration of one of the last unmapped regions of the earth.

The Atka is expected to reach the Antarctic icepack in four days or more, depending on weather and the location of the pack. Her captain is Comdr. Glen Jacobsen, who also heads the expedition itself for this season.

The voyage of the Atka is the first step in a United States program that includes the placing of an observatory directly on the South Pole and another deep in Marie Byrd Land. The project may culminate in criss-crossing exploratory flights that, in conjunction with the efforts of other nations, would cover most if not all of the unsighted areas of the Continent.

Antarctica is the last great land mass on the earth that has largely not been explored. Its unsighted hinterland is equal in size to Europe. What mountains, glaciers and snow-free valleys may be hidden there no one knows.

There is notably more emphasis on research in the current operation than there was, for example, in the 1946-47 naval expedition to Antarctica.

Emphasis on Research

The scientists on the Atka have been provided with extensive equipment installed in special compartments of the ship. Their observations will cover broad fields of science, ranging from outer space to the ocean bottom.

The priority given their work reflects not merely increased science-awareness on the part of the armed forces. The operation is designed to support the International Geophysical Year, 1957-58. During that period, simultaneous observations are to be taken throughout the world in an effort to establish some of the laws that operate in the earth and the space around it.

The proposed United States observatories in the Antarctic will work with those of other lands toward this end. A half dozen countries are expected to have observation stations in Antarctica during the International Geophysical Year.

Next season the United States plans to move into the coastal bases selected by the Atka expedition and to prepare for the laying of the Polar and Marie Byrd Land outposts. These outposts would be established in the season of 1956-57 and would remain manned into 1958 for the work of the International Geophysical Year.

The Atka is carrying 267 persons, including eleven scientists and civil technicians. There are twenty-two officers aboard, six of whom are observers, plus 242 enlisted men and this correspondent.

After she was built in Los Angeles for the Coast Guard, the Atka spent four and a half years sailing the icy seas north of Russia and Siberia as a unit of the Soviet merchant marine. She was originally commissioned the Southwind and in 1944 helped in the seizure of a German auxiliary warship in the East Greenland Sea.

Under the lend-lease program, she was then turned over to the Russians, who renamed her the Admiral Makarov, after the designer of the first ocean-going icebreaker. The ship was returned to the United States Nevy in 1950. As the U. S. S. Atka she took part in the Arctic operations in 1951 and had been up North each summer since then.

The Atka is a stubby craft, 269 feet long. With her powerful engines and broad beam of 63½ feet, she displaces 6,500 tons fully loaded.

The Atka sailed from Boston last Dec. 1 on the first leg of her journey south. She has been in Wellington for a week of final preparations. Her fuel tanks have been topped off and she has one year's provisions abroad.

During her stay in Wellington the ship was thrown open to visitors and was almost swamped by the turnout. Thousands of New Zealanders lined up and waited in the sun for hours for a chance to look over the vessel. They appeared most impressed by demonstration flights of the ship's three Bell helicopters.

In contrast to most earlier expeditions, this one is purely mechanical. Besides the three aircraft, there are two tracked vehicles — amphibious jeeps or Weasels—for travel across snow. The ship carries no dogs except one mongrel pup.

With a crowd of Maoris on the dock chanting their native songs of farewell, Wellington gave the Atka a send-off that left a glow in the hearts of all aboard. About 1,000 well-wishers on the dock waved until, from the departing ship, their handkerchiefs faded from sight.

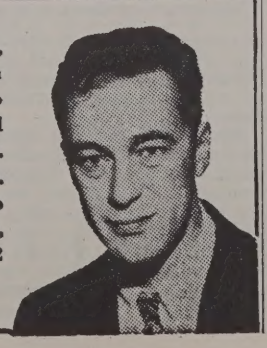
Several members of the crew left fiancées—after a week's stay The shouts of bon voyage followed the Atka even when she turned to the open sea. There the pilot boat loudly tooted her whistle and her crew waved.

ABOARD U. S. S. ATKA, at Sea, Sunday, Jan. 9—This ship en route to Little America completed the first helicopter mail delivery in New Zealand history early today.

As the Navy icebreaker passed off Dunedin on South Island yesterday afternoon, two of her helicopters flew in to the coast. A long row of automobiles glistened in the sun where residents had parked them along a beach highway to watch the 'copters.

Long before the helicopters took off, planes of the Royal New Zealand Air Force circled the ship. One light aircraft escorted the helicopters to the Air Force training station at Dunedin.

As soon as the helicopters were aboard again early today, the Atka set her course directly for Scott Island on the International Dateline. At this time of year Scott Island usually marks the northern limit of the drifting Antarctic ice and is the traditional place for a ship bound for Little America to assault the pack.



Walter Sullivan of The New York Times, only correspondent with the U. S. S. Atka expedition, is making his second trip to Antarctica. His first was with Rear Admiral Richard E. Byrd's expedition in 1946-47. As a correspondent for The Times, Mr. Sullivan's assignments have included the Civil War in China, the Korean War, Alaska, the United Nations. Since 1952 he has been stationed in Berlin.

ANTARCTIC IS MILD OFF THE ROSS SEA

ABOARD U. S. S. ATKA, at Sea, Jan. 12—The Antarctic gave this ship a warm welcome today. Although there were a few snow flurries, the weather was remarkably mild and almost no ice-pack was encountered.

Barely a mile of true pack had been traversed by this evening with all the rest of the route open water sprinkled here and there with "bergy bits" and "slob" ice. The latter, known also as "brash" ice, constitutes remnants of the melting pack.

It appeared the pack had been dissipated in this area.

A pair of penguins stared at the ship as she plunged past crushing or overturning the small floes. A few seals prone on cakes of ice raised their heads for a moment, then went back to dozing.

ABOARD U. S. S. ATKA, at Sea, Jan. 12—A member of this expedition to Antarctica turned to a lookout on the bridge of the Atka this morning and said: "Does that iceberg have a radio mast on it with the American flag flying?"

His question was facetious; but it reflected a serious argument that has been going on aboard this Navy icebreaker, which is to survey bases in preparation for the International Geophysical Year, 1957-58. The point is whether the Atka's first destination, Little America, is still there on the Ross Shelf Ice or has gone out to sea on an iceberg.

The iceberg signaled this morning was the first outpost of the Antarctic icepack. When the berg was first seen, miles away, its presence was announced over the Atka's loudspeaker:

"Now hear this: There is an iceberg on our port bow."

Little America, which was a base for four expeditions of Rear Admiral Richard E. Byrd, is not built on solid ground. It rests—or at least rested—on the floating shelf of the continental icecap that has pushed hundreds of miles out over the Ross Sea.

Known as the Ross Shelf Ice, this is the largest such formation in Antarctica with a frontal cliff on the Barrier 400 miles long. The Shelf is about 600 feet thick. At the point where the Little America camps were built, the ocean under the Shelf is 1,500 feet deep.

When the British explorer, Sir James Clark Ross, first discovered the bay in 1842 it was ten miles wide and ten miles deep. In 1902, Capt. Robert F. Scott found at the place twin bays side by side, each as large as that reported by Ross. Six years later, Sir Ernest Shackleton found that the two bays had merged into one huge embayment; Shackleton gave it the name of the Bay of Whales because of the numbers of whales he saw there at the time.

Since 1928, Admiral Byrd has visited the Bay of Whales four times, and on each occasion he found it to be smaller. In 1929, the entrance was five miles wide. In 1934, the width was three miles. In 1947, it was 400 yards across, and a year later this had shrunk to a bare 250 yards.

The Bay of Whales appears to be formed by the action of Roosevelt Island on the flowing Shelf Ice. This island is buried under the icecap on the "upstream" side of the Shelf, splitting it in two. The resulting two flowing ice fields form the opposite sides of the Bay of Whales.

In 1946 much of the inland part of the bay had already been snuffed out. The two ice fields had crushed together along a front of at least ten miles, creating chaotic crevasses and ridges taller than two-story buildings.

Admiral Byrd's first two camps had been built one mile in from the edge of the Upper Bay. The convergence of the ice fields put ten miles between these camps and the harbor, and the ice pressures so wrinkled the Shelf itself that the radio towers at the camps poked out of the snow at odd angles.

The bases for the subsequent Byrd expeditions, including the large-scale Navy operation of 1946-47, were built near the mouth of the Bay.

U.S. Antarctic Team Is Instructed How to Overcome Polar Dangers

Expert of Air Force Teaches Novices in Atka's Crew Survival Techniques

ABOARD U. S. S. ATKA, at Sea, Jan. 11—A veteran of two Antarctic expeditions waved a red flag over the heads of this Navy icebreaker's crew today and said: "I am not a Communist, but this brightly colored flag can save your life."

He was Murray A. Wiener, major in the United States Air Force. In a lecture to members of this expedition en route to Little America, he warned them of potential dangers ahead. About forty young Americans on this ship have never before been to the polar regions.

The red flag displayed by Major Wiener was one of the thousand trail flags made on the long cruise south from Boston. Their staffs are made of split bamboo. The cloth is of a gaudy scarlet.

The flags will be used to mark safe routes among the crevasses between the ship and the old camps of Admiral Richard E. Byrd at Little America. They will be the only guides to warmth and safety when "white-outs" or blizzards obscure other landmarks.

A whiteout occurs in the polar regions when a solid overcast creates diffused light. A man walks as if in a cloud. He is unable to see the horizon or the warning signs of snow-bridged crevasses.

As Major Wiener told of the dangers ahead, the men, assembled 100-strong in the mess hall, listened with the earnestness that springs from a desire to survive.

"I don't mean to scare you," Major Wiener said. "The Antarctic can be a very safe place to live. It can be a very dangerous place. It all depends on you."

He warned them of various perils: snow blindness, frostbite, wetness. He emphasized that special glasses or goggles issued for ice travel must be worn. He told of his own experience when he was 21 years of age.

Maj. Murray A. Wiener

To prevent entire teams from falling through a crevasse at once, he advised groups to walk single file and roped together in disturbed areas of the ice.

Antarctica is essentially a peaceful place, but it has its dangerous beasts as well. The major told of the carnivorous sea leopard, which at first glance looks like a seal but is extremely vicious though slow. He warned of the trick used by killer whales to tumble their prey into the water.

Swimming at great speed from underneath they strike the ice in unison, cracking it and throwing seals—or persons—into the water.

While the penguin is essentially a lovable and comic creature, Major Wiener warned the sailors not to tease the animals. They will fight back. The emperor penguin stands three feet tall, is dignified and powerful. With a lightning blow of his flipper, Major Wiener warned, he can break a man's leg.

The major discussed the question of beards. It was an old point of discussion among polar travelers, he said, whether a beard was an asset or a liability. It collects frost from the breath, but at the same time protects the face.

"I guess by now you can tell which school I represent," he added. Major Wiener, like a large proportion of the officers, enlisted men and scientists aboard, has laid his razor aside for the trip.

He set forth in 1937 with a party of Eskimos in northwest Greenland for a trek—without dark glasses. After three or four days he was completely blinded.

"The pain was the most intense I ever experienced," he said. He lay four days in a darkened hut before he was able to venture again into the glare.

All the top officers and the most experienced explorers of the expedition were on hand for the lecture, including Comdr. Glen Jacobsen, captain of the Atka and chief of the operation.

Major Wiener, whose home is Bradley Beach, N. J., is an Air Force expert on survival techniques and equipment. He warned the men of the danger of becoming wet when it is very cold. Because clothing damp from perspiration transmits cold to the body, he advised the men to peel off several layers before working so as not to perspire, then bundle up again afterward.

"If someone is unfortunate enough to fall into the icy water," Major Wiener said, "roll in the snow as soon as you get out so that it will blot up some of the moisture. Jump up; brush off the snow; then roll some more and repeat the process several times. But never take off your boots."

He stressed the importance when blizzards obscure all landmarks of digging in rather than wandering off the beaten track.

Frostbite is often painless in the early stages. Hence Major Wiener advised the men ashore to use the "buddy system." By traveling in pairs they could watch each other for the telltale white spots of frostbite.

Part of Little America Floats Away

Bay of Whales Gone, Byrd's Base Split in Ice Pressure

LITTLE AMERICA, Antarctica, Jan. 14—The jest of yesterday proved to be fact today as the U. S. S. Atka arrived here.

The Bay of Whales, carrying with it the six Douglas DC-3's left here by the 1947 Byrd expedition, has gone to sea on two or more icebergs. The tent city where almost 200 men lived in 1947 has been split in two. Fragments of one tent are dangling from the face of the sheer ice cliff overlooking the Ross Sea.

What has taken place is a cataclysm of the Antarctic, the "calving" of the shelf ice. A triangular section of the continental icecap 600 feet thick and running sixteen miles inland from the former shoreline has cracked loose and floated away.

The jest that came true was made aboard the Atka during her approach to Little America. As a practical joke a message was fabricated indicating the Ross Shelf Ice had broken out far inland, carrying Little America with it. Although some of the earlier camps were spared, that, in essence, is what has happened.

The missing section formed the west side of the Bay of Whales. Flowing ice movements drove it against the east side of the bay during the years since man was last here in 1948. The impact not only cracked off the main triangular section to the west but knocked out a part of the eastern shore of the bay, destroying the air base of the 1947 Navy project led by Rear Admiral Richard E. Byrd and known as Operation High Jump.

The earlier Byrd camps at Little America appear to be intact and were visited today by helicopter. Nevertheless, Little America has lost its value as a base for it has no harbor. Plans to use it as headquarters for long-range exploration in the next three years will almost certainly have to be revised.

No suitable mooring for a ship has been found, nor any slope from the sea up to the top of the shelf ice. Even Discovery Inlet, another landmark along the ice barrier since early in the century, appears to be gone. The Atka could not find it this morning, indicating there may have been extensive calving along other parts of the barrier.

The barrier is a vast section of the continental ice cap that has been pushed out over the sea by the flow of ice off the 10,000-foot continental plateau. While it is known to calve from time to time, the line of its front has been roughly the same during most of the period of Antarctic exploration.

It is not surprising that Lieut. Comdr. Frank A. Woodke, the ship's navigator, was confused. For reference he had American, German and Australian charts, according to all of which the ship was ten miles "inland." He took more observations of the sun and found he was right.

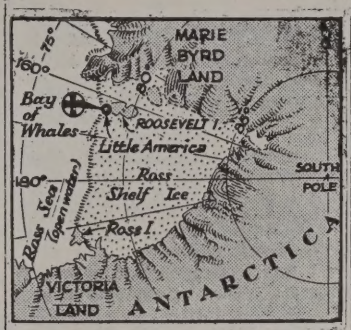
Suddenly someone peering through binoculars saw "a pole" on the glaring surface of the shelf ice. It appeared about a mile inland, between a peak and gullies of pressure ice, then vanished.

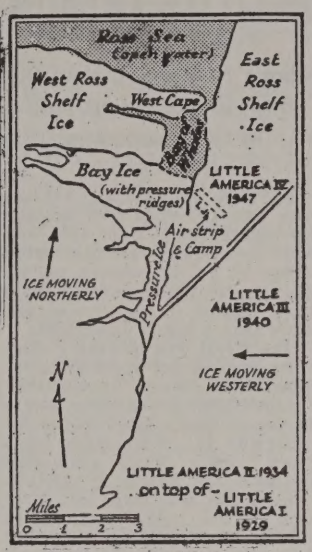
A man climbed aloft and looked again. He saw it was a tower and announced that atop it was a spinning propeller. With a shout of glee, Amory Waite of Long Branch, N. J., Army Signal Corps representative, said "That's my electric generator, still turning after twenty years!" It was placed on one of the radio towers of Admiral Byrd's original 1928 camp.

Further binocular search disclosed the rhombic antenna poles of the 1939 camp farther north and also near the barrier cliff. But there was no sign of the 1947 camp, largest of them all.

One of the Atka's three Bell helicopters took off with Comdr. Glen Jacobsen, the ship's captain, as observer. It landed at the 1928 camp and found that one of the three towers was completely buried in snow although it originally had stood more than seventy feet high. The two others barely showed above the drifts.

Mr. Waite made a reconnaissance flight and visited his old home. About noon this correspondent took off in the third helicopter, with Chief Aviation Pilot Albert P. Metrolis of Kittery, Me., at the controls. Using our rough charts of the area and a wrist watch for navigation, we were able to locate the remains of the 1947 camp near the brink of the ice cliff.





A 1947 map of Little America area. Ice movements have destroyed Bay of Whales.

'47 CAMP VIEWED IN LITTLE AMERICA

Remains of Split Tent City Appear in Cross Section in Sheer Ice Cliff

LITTLE AMERICA, Antarctica, Jan. 14 — Little America IV has been cut in two as though by an immense cleaver.

Chief Aviation Pilot Albert P. Metrolis, flying a helicopter from the U. S. S. Atka, found the remains of the base this afternoon.

Metrolis, with this correspondent as a passenger, flew the machine along the face of the bluish white ice cliff, at first swift as a snow petrel, then held it hovering near the point where the shelf ice had broken off, carrying part of Little America out to sea.

Embedded in the face of the cliff was a cross section of the camp. An oil drum hung precariously. Beneath it a thin dark line ran parallel to the surface above the cliff. This apparently was the road leveled in snow in 1947 to link the airstrip with the mess tent.

To prevent vehicles from wandering off it into the soft snow during blizzards, a row of empty oil drums was set alongside it. One of these now hangs in the cliff.

The dark line beneath it was the layer of soiled packed snow that once was the surface of the road. After a month of use by tractors it was so hard that a twin-engine Douglas transport plane could taxi along it on wheels instead of skis.

Now the only sign of this road is the cross section in the cliff. It lies seven and a half feet below the present surface, indicating eight years' accumulation of snow. An accurate estimate of the snow deposit was possible because from our aerial perch we could see that the snow layer was two and two-thirds times the height of the drum.

Near by, what appeared to be the wreck of a tent hung in the cliff of névé. Névé is the partly compacted granular snow that forms the surface of a glacier or icecap. A red piece of material fluttered in the wreckage embedded seven and a half feet below the brow of the cliff.

Metrolis lifted the helicopter into the air and we could see what was left of the camp on top of the shelf. There were two rows of tent poles peeping a few inches above the snow. Their canvas had long since been ripped off by blizzards or squashed flat by the weight of the snow.

Beyond was the flagpole, a metal pipe, the first landmark we saw of the camp. Beneath the surface, hidden from view, were remains of the mess tent where hundreds of Americans dined eight years ago at the height of Operation High Jump.

There was no sign of the remaining three rows of tents, of the forest of marker poles left sticking up from fuel depots or of the six twin-engine planes. The latter were left anchored to the snow in February, 1947, in the hope they could once more be used to extend man's knowledge of this little known continent.

Where that section of camp stood there exists today but open sea and pack ice, where seals and penguins make their drifting home.

We knew that landing on the shelf was risky business during whiteout conditions, when there is no bright sun to bring the featureless surface into focus. We flew over to what looked like a sign protruding from the snow and, using this as point of reference, Metrolis, whose home is in Kittery, Me., began to let the helicopter down onto the surface.

Despite great care, we landed with a bump, both convinced the surface was still a few feet below us. Lieut. Homer W. McCaw Jr. of Philadelphia, the ship's senior pilot, had the same experience when he made a landing this afternoon.

When he thought he was hovering well up in the air he asked his passenger, Chief Photographer Hashel White of Pensacola, Fla., to drop two pieces of wood to make reference points on the snow. White did so and his eyes bulged.

"The wood didn't drop at all," he said afterward. "It just hung there in the air." Then he realized the plane was only a few inches off the surface.

Once we had landed I walked to the sign with a vague feeling it would say "Welcome to Little America." It did not. On it some one with pencil had scribbled in longhand, "clothing stores, undamaged shelter with heater, general stores." Snow had drifted around two other signs near by so that it was flush with their top edges. When dug out they were illegible.

Beyond them nothing was to be seen except the shelf ice, flat, glaring white, reaching endlessly toward the South Pole.

It was featureless except for dramatic plays of glare and shadow under the clouds. Scattered snow squalls streaked down near the horizon from clouds that were almost charcoal gray. In them lurked the threat of isolation from the ship.

The barrier surface, like the sky, is impressive in its overwhelming breadth and its subtle changes of mood. It is lifeless and utterly inhospitable. The shelf's frontal cliffs are more than 400 miles long and it reaches south for 100 miles to the Queen Maud Mountains.

With one eye on the snow squalls we took off and headed back for the ship along the brow of the barrier cliff. Metrolis flew about twenty feet above the snow cornice of the cliff at what seemed breakneck speed. The line of the barrier zigzagged wildly beneath the swift plane.

STORES SALVAGED IN LITTLE AMERICA

Atka's Helicopters Haul Out Part of Equipment Left in 1947 Installation

LITTLE AMERICA, Antarctica, Jan. 16—With fifty helicopter flights, the U. S. S. Atka was able to move a working party ashore at Little America yesterday. By the time the party came back aboard it had hauled out more than a ton of equipment.

The airlift was necessary since there is no longer any way to get ashore here except by air. For the last fifty years there was a harbor at this point with bay ice alongside to which ships could moor. Snow ramps gave easy access to the plateau of shelf ice.

Since the last visit one entire side of the harbor has broken into icebergs, leaving a shallow indentation in the coast, which is now an unbroken line of ice cliffs eighty to 150 feet high. Little America's history as a base for polar exploration has come to an end.

Helicopters operating from the flight deck on the stern of this icebreaker are able to leap over the barrier cliffs to the Little America camps. It is doubtful that the latter will long survive for further breakouts of the continental icecap are expected. When the Atka leaves tonight to seek a new foothold on the continent at the bottom of the world, man's last visit to Little America may have ended.

The men who went ashore yesterday salvaged small items that could be carried by the helicopters. They lifted cameras, surveying equipment, medical books and a case of cocoa to replenish the ship's short supply. The largest item was a generator to strengthen the ship's radio output.

It was dismantled in the dark, freezing chamber of the snow-buried radio station NLA, whose voice had been silent since 1947, then flown out in pieces.

The progressive disintegration of the barrier façade, which ultimately will spill the surviving camps into the sea, was evident from the helicopters as they shuttled back and forth. The sound of their engines dislodged sections of white ice cliffs, which plunged into the greenish waters at the base.

The crest of the cliff was "smoking" with the eternal drift of the Antarctic—snow that is blown from the direction of the pole by the constant southerly winds. This drift swirled off the crest of the barrier in white clouds that curled down and dissolved in the sea 100 feet below.

Yesterday's activity centered on the quonset hut built as a radio station by the Navy's Operation High Jump in 1947. A heliport was established alongside the poles protruding from the snow that were the only signs of the camp visible above the surface.

A ring of trail flags marked a landing circle for the aircraft. A signalman, by his arm motions, coached each plane down onto the snow. Fifty flights were necessary since the cargo capacity of the planes is small and they can carry only one passenger each. Under the guidance of Maj. Murray A. Wiener, Air Force, who once lived here as a member of an earlier Byrd expedition, the working party soon dug out an escape hatch in the roof of the quonset hut, two feet below the surface.

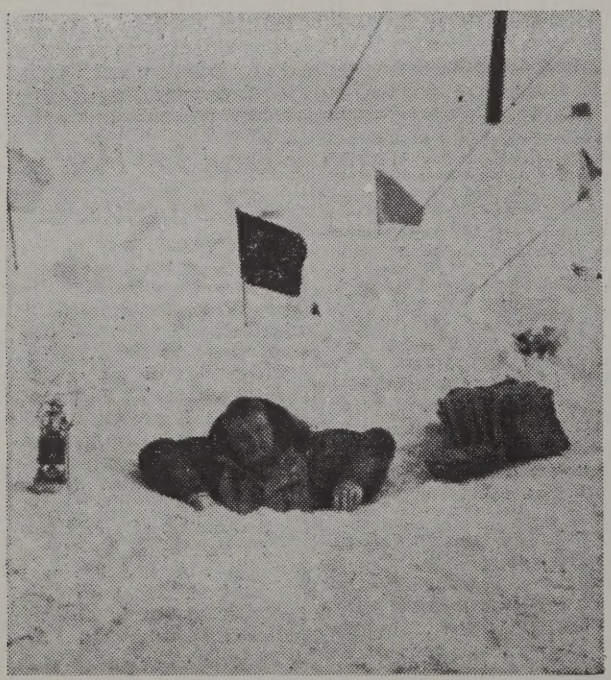
Whereas the temperature outside was slightly above freezing, below in the hut it was about eleven degrees Fahrenheit. Scientists ferried by helicopter tested the snow, made careful measurements of the earth's magnetism and examined the effect on the hut of the heavy snow load.

A slanting tunnel leading down to the 1940 camp on the lower level had caved in, indicating the possibility all its buildings were crushed by the weight of snow. The floor of the quonset was buckled up one to two feet in the center. This was apparently caused by the sinking of the rest of the hut under the snow load.

Unusual crystallization of water had taken place inside the camp during the eight years when man and his heating apparatus had been absent. The humidity that the first occupants had left behind them clung to everything in the form of broad flat crystals. At the slightest touch they shattered with tinkling sounds.

Written in long hand on one section of the wallboard was a verse signed by Photographer's Mate First Class L. M. Rizzola, who accompanied Operation High Jump to Little America. Dated Feb. 23, 1947, it said:

"We are leaving tomorrow,
"Not to our sorrow
"We are heading adrift,
"If we don't miss our lift.
"So to you, new,
We bid you adieu."



Lieut. (jg) Marion T. Tilghman of Weldon, N. C., emerges after inspecting the radio station of Little America III. He entered it by digging to an escape hatch in the roof.

Little America Dwarfs Munchausen Tall Story

LITTLE AMERICA, Antarctica, Jan. 19—The fabulous tale of Baron Munchausen, in which the snow was so deep he hitched his horse to a church steeple, has almost come true here.

Comdr. Glen Jacobsen, captain of the icebreaker Atka, sat on top of a seventy-foot radio tower today. It protruded only two inches above the snow.

The tower was one of three steel frame structures that held antennas of the Adolph S. Ochs radio station at Little America. They were built in 1929 at the camp from which Admiral Richard E. Byrd made his historic flight over the South Pole and were named for the late publisher of The New York Times, who helped sponson the expedition.

Two of the towers still stick out about ten feet above the snow. The third appears to have tipped somewhat to one side, the result of buckling of the icecap, and is almost completely buried.

SPERM WHALE'S OIL GUARDS RESERVOIRS

LONDON, Feb. 23—An unusual type of oil obtained from sperm whales can be used to protect water holes and reservoirs in arid zones against evaporation, British scientists state.

The oil, called cetyl alcohol, has the property of spreading into a monomolecular layer—a film one molecule thick.

This film, the scientists say, is sufficient to insulate the water against the sun's rays and reduce evaporation by at least 30 per cent. It also does not poison the water.

The water is being treated at the rate of one pound of oil for each acre of reservoir area, a process costing about a penny for each 1,000 gallons of water saved from evaporation.

Monomolecular layers of fatty substances were first investigated by Benjamin Franklin.

100-MILE ICEBERG NOTED IN SURVEY

ABOARD U. S. S. ATKA, in Antarctica, Jan. 17—A section of the Antarctic icecap as large as Long Island has broken off and floated north, possibly in one piece, according to a survey completed today by this ship.

The operation gave some support to the contention that Antarctica sometimes produces icebergs more than 100 miles long. Some of the scientists aboard this Navy icebreaker believe such icebergs divide into smaller bergs that may be as much as ten miles long. The Atka's survey threw new light on the processes involved.

The survey dealt with the ice cliff known as the Ross Barrier from Little America to a point beyond Discovery Inlet 120 miles to the west. It showed that apart from the indenting at Little America, the Barrier runs generally straight—a cliff of ice uniformly 100 feet high, broken off clean in one long crack.

Discovery Inlet, a bend in the edge of the Ross Shelf ice frequented by explorers from 1902 until 1948, is completely gone. The Barrier cliff there is now a straight line. The Atka expedition, preparing for larger United States Antarctic operations next year and the International Geophysical year, 1957-58, marks the inlet as a name on the chart.

The barrier itself is the face of the Continental icecap that has been pushed out over the sea. It is about 600 feet thick, but it is afloat and only 100 feet show above water.

To the mariner it appears as a cliff of gleaming ice that stretches from horizon to horizon. It was named the Barrier by early sailors who believed it was a virtually impassable obstacle to those seeking to reach the South Pole.

Comparing the Barrier sighted today with that mapped by another United States Navy icebreaker in 1948, it appears that a strip about ten miles wide is broken off at least all along the 120 miles covered by this ship. The entire Ross Barrier is 400 miles long.

In 1948 the Barrier was ten miles farther out to sea—roughly, ten miles farther north—than was the Barrier as mapped in 1902, the 1902 line being roughly the same as that seen today. It thus appears that the Barrier gradually pushes north as the ice flows off the Continent until the Shelf is overextended. Then it cracks off along a line parallel to the Barrier façade and about ten miles inland. The cycle seems to repeat itself about every forty years.

Previously, it had been thought the Barrier cracked off haphazardly here and there rather than in a periodic massive breakout.

Preliminary results of the Atka survey in the Bay of Whales area indicate that a section of the ice 300 square miles in area—larger than an island of Guam—has broken out on the western side of what was Little America Harbor. What remains is a shallow indention in the Barrier front twenty-five miles wide and twelve miles deep.

A helicopter flight yesterday afternoon disclosed that a tremendous crack had formed running inland almost to the ice covered hump of Roosevelt Island. The crack continues the line of the western side of the present embayment and eight miles of open water show inside.

Hundreds of seals have made their homes along this fissure. They probably incude some of those banded in the Bay of Whales by expeditions under Rear Admiral Richard E. Byrd—seals that survived the cataclysmic breaking out of the Barrier.

Near the seaward end of the crack the helicopter flew over a small ice floe carrying about thirty penguins jammed together like rush-hour passengers on a Lexington Avenue express. At the sound of the machine overhead, they scrambled to the edge of the floe and dived off.

Once the 'copter passed, the penguins swam deep, built up speed, grouped in echelon and shot out of the water onto their floe again in staccato succession. They had hardly crowded back aboard when they heard the helicopter coming back, and over the side again they dived.

A motor whaleboat from the Atka probed into the mouth of the crack, but it was not safe to enter. Gigantic blocks of neve, the compacted snow that makes up the icecap, tottered overhead. One appeared as large as New York's City Hall. The sound of the engine might have toppled it onto the whaleboat.

The barrier top, normally smooth, was broken up near the fissure into ridges and crevasses large enough to swallow up the Atka herself.

As she lay off this crack in the Barrier the shop's position was Lat. 78 degrees 31.6 minutes south, Long. 164 degrees 53 minutes west. This was about ten miles short of the farthest south ever reached by any vessel. The Far South record was in the Bay of Whales at about this longitude by Roald Amundsen's ship Fram in 1911.

If the Barrier breaks out along the crack discovered yesterday all the Little America camps may be carried away and a newly formed bay lie open as far south as the point reached by Captain Amundsen.

Little America Base Closed; New Antarctic Camp Sought

ABOARD THE U. S. S. ATKA, off Antarctica, Jan. 1.—This expedition closed the historic camps at Little America today, probably for the last time. The Navy icebreaker then sailed eastward along the coast to seek a substitute site from which to launch future explorations.

For forty-four years the Bay of Whales, on which Little America was situated, was the chief center for Antarctic exploration. It was the southernmost point that could be reached by ship and its harbor made an ideal spot at which to unload expedition supplies.

From the Bay of Whales, Capt. Roald Amundsen began his dash to the South Pole in 1911. Rear Admiral Richard E. Byrd established his first base at the Bay of Whales in 1928 and named the site Little America. He took off from there and flew over the Pole, and in subsequent expeditions explored much of the continent.

This ship discovered three days ago that the Bay of Whales had disintegrated with the cracking off of a large section of the polar icecap, which has drifted out to sea. There is no longer any harbor and hence the installations at Little America are virtually useless.

Before the Atka party sealed up the best-preserved buildings at Little America III, the 1940 camp, a letter from Comdr. Glen Jacobsen, captain of the Atka and expedition commander, was left inside the entrance, addressed to any future visitors.

"We of the Navy's 1954-1955 Antarctic expedition welcome you to Little America III," it said.

Commander Jacobsen noted that gigantic natural forces were gradually destroying the camps so that this might be the last visit of man to this historic spot. "Little America will live in the annals of polar exploration," he said. "It was here that man first used modern methods to explore this trackless wilderness. The hard work and sacrifice of the men who preceded us here will never be forgotten by mankind."

"Attached is a list of the personnel of this expedition which we leave for posterity," he concluded. "Good exploration!"

To do the job at Little America the Atka had sent her helicopters on ninety-seven round trips from the ship to the widely separated camps on the Barrier ice. The hops were made in two days without mishap.

The scientists last night (Sunday, Jan. 16.) finished all that could be done of their assigned tasks in testing the snow and examining the effects of polar conditions on buildings and equipment.

Some expedition members put up their own flats at the Barrier camps and photographed them for the benefit of girls back home. One banner said, "Little America—Camp Ruthie, Wendy, Sue."

Another announced that this was "Camp Joan Denyce, Little America."

Atop one of the radio towers at Admiral Byrd's camp, the windmill generator of Little America II was still turning twenty-one years after it had been installed. It was dismantled by Amory Waite of Long Branch, N. J., who is Signal Corps representative on this expedition.

Mr. Waite, who had helped install the equipment for Admiral Byrd, submerged the three propeller blades of the generator.

Once the helicopters had ferried all but a couple of men back to the ship, Commander Jacobsen's letter was put in place and the hatch over the entrance to Little America III was closed.

Drifting snow that hugged the surface blew across the ice cap in whispy streamers and began burying the entrance. Overhead the polar wind whistled in the radio antenna with a rhythmic sound as though a ghostly signal was coming from the abandoned camp

World Gangs Up On Blue Whales

Ships of a dozen nations, including Russia and Japan, are steaming around in the Antarctic this season bringing bad news to the great blue whales. So packed are these ships with sure-fire ways of turning a whale into an end product in a lipstick factory, that the aquatic mammals haven't a chance to see the summer through, Sydney reports.

At least, 15,500 of them haven't. This is the number fixed by international agreement for this year's slaughter. Last year 16,000 went to the boiling vats.

The man shouting "Thar she blows" or "Whale O" from the crow's nest is completely outmoded. A man sitting below decks spots a whale fathoms deep on a grid of screen. Men who hunted U-boats with instruments in the last war now trace whales that way.

A Heavyweight Whale

Largest of living creatures, the sulphur bottom whale may weigh as much as 150 tons.

ICE PACK HOLDS UP ANTARCTIC SEARCH

Atka Meets Her Match on Trip East to Locate New Base—Promising Area Spotted

ABOARD THE U. S. S. ATKA, Off Antarctica, Jan. 20 — This most powerful of icebreakers has met its match in the Antarctic ice pack.

At one point yesterday the Atka, battering at ice ten to twenty-five feet thick, took more than three hours to gain two and a half ship lengths. A blade of one of the two propellers was nicked by a floe, but the ship does not appear to have lost any of its punch.

After two days of struggle efforts to reach Sulzberger Bay were suspended. The skipper, Comdr. Glen Jacobsen, intends in the meantime to re-examine the most promising base site discovered so far, Kainan Bay.

He still hopes a south wind will drive out some of the drifting pack and enable the ship to reach the Sulzberger Bay area from the east. He considers the bay may prove a suitable spot on which to base the projected long-range exploration of the next few years.

At one point Tuesday the ship rounded the tip of Cape Colbeck and had the entrance of Sulzberger Bay in sight. It had steamed the 150 miles from Little America without difficulty, for southerly winds had blown the pack north and left an ice-free channel along the coast. A quick look in passing was taken at Kainan Bay, thirty miles east of Little America.

At Cape Colbeck, the Atka nosed into waters that, so far as is known, never had been sailed before.

The pack ice, forced against the shoreline by currents or the brisk northeast wind, was pressing in a solid mass from beyond the horizon. It ground against the ship with enough pressure to crush lesser craft.

Commander Jacobsen turned north, skirting the pack. He took the Atka along what sailors named "Iceberg Alley," threading between a procession of huge bergs. They were flat-topped and several were about the size of Central Park in New York. Although the ocean is about 500 feet deep, the icebergs draw so much water that several were aground.

With a tempting stretch of open water spotted by the helicopter ahead, the ship had to unlimber its heaviest weapons in dealing with the pack ice after it had cleared the bergs.

The first audible sign of trouble was word over the loudspeaker system cautioning all hands to stay clear of the covers of the heeling tanks, which are used to induce rolling. The manholes over the tanks were raised several inches off the deck on built-in legs so air could rush out when water rushed in.

There are six tanks, the opposed ones being connected by mains two feet in diameter. Through these 104 tons of water moved from one side of the ship to the other every ninety seconds, making it roll about ten degrees to each side and preventing it from becoming bogged down or frozen in.

Even a powerful vessel like the Atka can become beset—frozen into the ice—if the ice squeezes in all around her so she can no longer back off and slug the floes ahead. This was not an immediate threat yesterday for there were open pools of water visible, indicating that the ice pressure was only moderate.

The Atka cannot take any chances of being beset, for, unlike icebreakers in Arctic regions, no help is near.

The Atka, unable to forge ahead, returned to make a detailed survey of Kainan Bay. It offers much that had made the now-abandoned Bay of Whales at Little America an ideal exploration base. The essential requirement is a route from sea level wher ships must unload, up onto the shelf ice, where a camp and airfield can be established. The shelf normally drops into the sea in vertical 100-foot cliffs out where there are deep bays that remain frozen most of the summer.

In Kainan Bay there is bay ice that appears to provide the foundation for a usable ramp. When the ship arrived this morning it found that in the fifty hours since it left the northeast winds had filled the bay with pack ice. To be caught inside if heavy fields blow down from the north would be risky, so the ship is lying outside waiting for a shift in the wind.

Once the bay ice is reached, it is hoped scouting parties can determine whether the spot would be suitable.

Seaman William J. Cammon of Pompton Lakes, N. J., with a penguin he captured at Kainan Bay. Cammon was member of team that took ocean temperatures throughout operation.

KAINAN BAY ARRIVAL

The Atka Failed to Reach the Plateau on First Day There

ABOARD THE U. S. S. ATKA, off Antarctica, Jan. 21—A party from this ship landed in Kainan Bay today but failed in its attempts to reach the ice plateau. Crevasses seemed to block all routes.

The passage here has been tough. At one point Wednesday (Jan. 19) the Atka, battering at ice ten to twenty-five feet thick, took more than three hours to gain two and a half ship lengths. A blade of one of the two propellers was nicked by a floe, but the ship does not appear to have lost any of its punch.

After two days of struggle efforts to reach Sulzberger Bay were suspended.

The skipper, Comdr. Glen Jacobson, still hopes a south wind will drive out some of the drifting pack and enable the ship to reach the Sulzberger Bay area from the east. He considers the bay may prove a suitable spot on which to base the projected long-range exploration of the next few years.

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Preliminary scouting of Kainan Bay earlier had revealed several natural ramps, blanketed with ice ten feet thick, leading from the bay to the floating shelf ice, which is part of the continental icecap. The latter is 600 feet thick, with about 100 feet of it above sea level.

When the Atka returned to the bay Thursday, the approaches were choked with pack ice driven in by northerly winds. During the night south winds cleared the entrance and early today the icebreaker carved a dock from the bay ice. The unstable overhanging edge was shaved off by using the bow as a razor, leaving a solid wall against which to moor.

A six-man trail party waited several hours for sea smoke to lift. This type of fog, often found in the Antarctic, forms over the sea and blows inland in smoke-like billows. Although visibility was fair when the party started on its mission, it became gradually worse.

The leader of the group was Maj. Murray A. Wiener, Air Force representative, whose home is Bradley Beach, N. J. It included Ensign Richard B. Dalbeck of Belmont, Mass., the ship's disbursing officer; George R. Toney, Weather Bureau Arctic specialist from Washington, D. C., and Stanley Heddles, ship's serviceman second class, of Lamarque, Tex. — all experienced skiers—plus this correspondent.

At the rear was Amory H. Waite, Army Signal Corps observer, of Long Branch, N. J.

The trail party's mission was to find a vehicle route onto the ice plateau. From atop the ramp it appeared probable that any such route would have to be constructed.

Freezing Breath Audible

During the antarctic winter, it gets so cold that a man can hear his breath freeze, says the National Geographic Society.

Antarctic Airman Is Killed In Helicopter Crash on Ice

ABOARD THE U. S. S. ATKA, off Antarctica, Jan. 22—One of the helicopters ferrying observers and scientists to the plateau of Antarctic ice surrounding Kainan Bay crashed today, inflicting fatal injuries on the pilot. Kainan Bay is east of Little America.

Lieut. (j.g.) John P. Moore, U. S. N. R., of Lenoir, N. C., had just taken off from the plateau after dropping a passenger when his craft struck the surface. It was completely demolished.

Those near by on the icecap rushed toward the wreckage. Another of the Atka's three helicopters was en route with Chief Aviation Pilot Albert P. Metrolis of Kitterly, Me., at the controls.

Pilot Metrolis saw wreckage and notified the ship by radio. Then he landed alongside Lieutenant Moore's craft. He left his passenger, Gunner's Mate 2/c Joseph Tavares of Boston, in his copter with the motor idling while he joined in rescue efforts.

The helicopter was so badly wrecked it was difficult to get Lieutenant Moore out. Lieut. (j. g.) Robert H. Loreaux Jr. of Washington, D. C., and the Rev. Daniel Linehan joined in the effort.

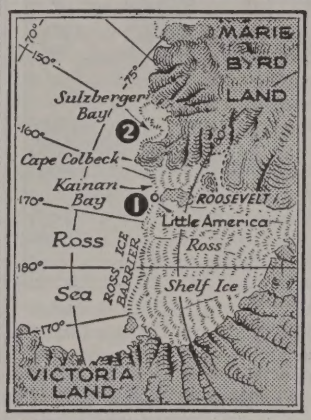
They had to cut the seat belt. Lieutenant Moore was alive but unconscious.

Father Linehan, who is head of Boston College's Weston Observatory, had brought his seismic instruments in a canvas rescue sled. The sled was emptied and used as a stretcher, which was lashed onto one pontoon of the helicopter, flown by Pilot Metrolis.

Within about twenty minutes of the accident, Lieutenant Moore was back on the Atka with the ship's doctor, Lieut. Murray Kahn of Bergenfield, N. J., attending him.

For several hours, Lieutenant Kahn and his attendants worked to save the injured flier; but Lieutenant Moore never regained consciousness. This afternoon, the ship's captain, Comdr. Glen Jacobsen, announced over the loudspeaker system that Lieutenant Moore had died.

An atmosphere of gloom settled over the ship. Lieutenant Moore, 26 years old, was one of the best liked officers on board. He was constantly cheerful and dashing yet gentle. He spoke with a soft Southern accent.



ANTARCTIC CRACK-UP: A helicopter crash at Kainan Bay (1) killed the pilot after the Navy icebreaker Atka had turned back westward from Sulzberger Bay (2).

Last Wednesday, with the ship's executive officer, Lieut. Comdr. Francis E. Law as observer, Lieutenant Moore flew on a scouting mission as this ship picked its way through the icepack. At one point the engine sputtered and Lieutenant Moore made a hasty landing on an icefloe.

"He kept cracking jokes trying to keep up my morale," Commander Law reported afterward with admiration. The engine was soon humming again and they returned to the ship.

The use of helicopters to ferry observers to the icecap was necessary because a trail party yesterday was unable to find a satisfactory surface route.

The icecap is being examined to see if it could be used as a possible airfield and base for projects in connection with the International Geophysical year, 1957-58. The scientists aboard the Atka, such as Father Linehan, are making observations in various fields. The Atka's survey will be followed up next year by a larger United States Navy expedition.

Leaders of the Atka party avoided speculation as to the cause of the crash of Lieutenant Moore's helicopter until official investigation can be completed.

FLYING HAZARDOUS OVER SNOW AND ICE

Ice, snow and blinding-white "visibility" that distorts distances have presented special hazards to fliers in Arctic and Antarctic expeditions ever since the plane supplanted the dog-sled almost thirty years ago.

Even before that time, the first man who tried the aerial approach across the snow and ice on the top of the world was A. S. Andree of Sweden, who in 1897 took off in a balloon for the North Pole and vanished. Since that grim beginning the way of the flier on both ends of the earth has not been an easy one.

The first successful flight over the North Pole was made by Rear Admiral Richard E. Byrd and his pilot, Floyd G. Bennett, on May 8, 1926. Only four days later Roald Amundsen of Norway, Lincoln Ellsworth of the United States and Umberto Nobile of Italy crossed the North Pole in the dirigible Norge.

In the Antarctic, Sir Hubert Wilkins of Britain flew the first plane in that part of the globe in 1928. In the following year, on Nov. 29, Admiral Byrd flew over the South Pole.

One of the worst air tragedies in Arctic exploration occurred in May 25, 1928, when the dirigible Italia, flown by Nobile, crashed from the weight of ice and snow onto a floe. The impact tore off the cabin and scattered its occupants, killing one man. The gas bag rose, carrying six men in the power gondola off across the icy wastes to their death, nobody knows where.

That tragedy also cost the lives of Amundsen and five others, who set out in a French Navy seaplane to try to rescue Nobile's men. These six also vanished.

A Swedish Army flier, Lieut. Einar Paal Lundborg, in another attempt to reach the stranded Nobile expedition, landed a two-passenger plane on the ice, picked up and returned with Nobile. On a second trip to the crash site Lieutenant Lundborg's plane was wrecked and he was stranded with some of the Italia survivors until a Soviet icebreaker reached them a month later.

Admiral Byrd, reached at his home in Boston Jan. 23, recalled that during his four expeditions to the South Pole and his two expeditions to the North Pole his fliers had several mishaps.

While Admiral Byrd was on his way to the South Pole on his expedition in 1946-47 three Navy fliers in the advance party were killed when their plane crashed into a mountain. Six survivors from the same crash were rescued thirteen days later.

Admiral Byrd said in his last expedition he had, in addition to thirteen ships and twenty-two planes, four helicopters. Three of the helicopters, he recalled, were lost in crashes, although nobody was hurt.

In another South Pole expedition, the expedition led by Comdr. Finn Ronne, three British fliers were downed in a blizzard and were lost for nine days, but they were rescued.

Admiral Byrd emphasized that the heavy ice that coated the planes' wings and the sudden gusts of wind in both the polar areas represented the biggest danger to fliers.

In the expedition that is now in the South Pole region winds almost brought tragedy while the party was still in New Zealand. Two leaders were almost blown out to sea on Jan. 3 when two helicopters in which they were riding were caught in a sudden gale after taking off from the Navy icebreaker Atka to give a demonstration at Taurerenikau. The pilots finally maneuvered their craft into the lea of mountains and returned safely to ship.

It was evident that flying conditions had suddenly deteriorated into what is known in polar regions as a "white out." This is a situation when the sky is overcast and the light becomes so diffused that neither horizon nor snow surface can be seen from the air.

The Antarctic "white out" has claimed many victims including three Navy fliers killed on Operation High-Jump in 1946-47.

Their Martin Mariner seaplane struck a snow slope along the Antarctic coast about 1,000 miles east of here. When Pilot Metrolis took off with the injured Lieutenant Moore on his pontoon this morning he could not see the surface and hit it once before the helicopter could gain altitude. The pontoons were parallel to the surface, so the craft did not trip. It bounced back into the air.

Pilot Metrolis is well aware of the dangers of the "white out." Two of his 1946 classmates at Operational Training School in Banana River, Fla., were on the ill-fated Mariner that crashed in the Antarctic later that year. Both survived, although Lieut. Ralph P. LeBlanc, who had been a crew-mate of Pilot Metrolis at the school, was severely injured.

Precautions had been taken to avoid any mishap. Over and over Commander Jacobsen has warned members of the expedition in their various operations on the ice and aloft not to take any chances.

But the Antarctic weather is unpredictable. There are no weather stations and "white out" conditions can develop within a few minutes. This and the many other perils peculiar to the Antarctic have blocked exploration of that continent so that the bulk of it has never been seen.

ATKA SEEKS WAY AROUND ICE PACK

Reconnoiters Alternate Route to Sulzberger Bay in Hunt for New Polar Base Site

ABOARD THE U. S. S. ATKA, in Antarctic, Jan. 24—Its investigation of Kainan Bay completed, this Navy icebreaker sailed north into the ice pack today in a renewed effort to find an entry into the Sulzberger Bay area of Antarctica.

The plan of attack is to make an "end run" around the heavy pack encountered last week northwest of Sulzberger Bay.

Sulzberger Bay is 100 miles wide and sixty miles long, bounded on all sides by mountains that thrust their heads through the icecap. Much of the bay itself appears from earlier air reconnaissance to be covered by a section of the continental icecap thrust out over the water as shelf ice.

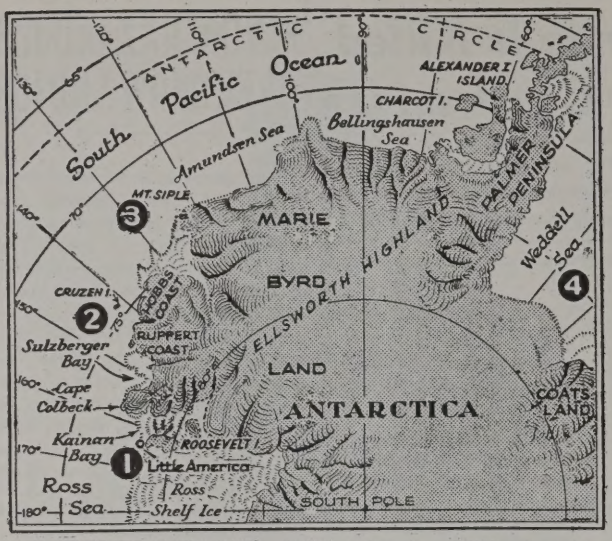
The Atka is scouting the coast in an effort to find suitable base sites for the coming program of international scientific observations in the Antarctic. A conference this morning of observers from various branches of Government generally agreed that Kainan Bay was at least a possibility as such a base.

The expedition members have largely recovered from the shock of the helicopter crash Saturday that took the life of the pilot, Lieut. (j. g.) John P. Moore, U. S. N. R. Low visibility that continued long after the accident curtailed activities that would have helped take their minds off the tragedy.

Five expedition members were marooned atop the icecap when the crash and poor visibility brought helicopter flights to a halt. After an uncomfortable night, largely spent skiing to keep warm, the five hiked close to the ice cliff astern of the ship, leaving their scientific instruments behind. With the men within sight of the ship it was comparatively easy to lift them down by helicopter.

Examination of the bay was continued yesterday. Shortly before midnight the sun broke through and the ship's two remaining helicopters were able to bring back the instruments left on the icecap and do a photographic survey of the bay. Within an hour the sun had vanished, so the ship recovered its aircraft and headed north. At this time of year, the Antarctic summer, part, at least, of the sun's disk stays above the horizon twenty-four hours a day.

By 10 A. M. the Atka was more than 100 miles north of Kainan Bay. She is nosing her way through drifting pack ice that is not tightly compressed but contains floes several acres large and ten to fifteen feet thick.



ICE FRUSTRATES THE ATKA: Leaving Little America (1), the Navy icebreaker reached a point off Cruzen Island (2), believed to be the farthest south a vessel has penetrated in the area, after failing six times to break through pack ice. The ship then moved to about 185 miles northwest of Mount Siple (3). The survey will continue to the Weddell Sea (4).

ICEPACK PREVENTS ANTARCTIC SEARCH

Atka Blocked in Six Attempts to Find Open Water in Hunt for New Site for Base

ABOARD THE U. S. S. ATKA, Off Antarctica, Jan. 28—During the past twenty-four hours this Navy icebreaker has repeatedly sailed south into the icepack, seeking in vain a route to open water along the coast.

The Atka has been trying to force an entry into Sulzberger Bay and find there a base for new Antarctic exploration.

Last night, hopes ran high when a chain of icebergs was found running toward the shore. With an east wind blowing, there was a channel of clear water on the leeward side of these bergs. This enabled the ship to get within 100 statute miles of the coast, only to be turned back.

This morning the Atka steamed through a heaving blanket of light ice, which rose and fell to a swell, rolling in from the open sea out of sight to the north. As soon as the ship neared the coast, the pack again became too heavy and she withdrew to probe further east toward Cruzen Island on the east of Sulzberger Bay.

If, as is hoped, there is open water in the great embayment, the ice-free space should lie less than eighty miles to the south of this ship. The bay, the center of which is about Lat. 77 S., Long. 151 W., is roughly 100 miles wide and sixty miles deep

Atka North of the Pack; Gun-Practice on Icebergs

ABOARD U. S. S. ATKA, Off Antarctica, Jan. 26—Early today this Navy icebreaker emerged at the northern edge of an Antarctic icepack and started at full speed eastward through clear water in an effort to outflank the pack north of Sulzberger Bay.

By tomorrow morning the ship should be in position to turn south and seek entry to the bay from the east. No landing has ever been made there. The Atka is seeking a site for a base to replace that abandoned at Little America.

The Atka will have target practice during the day on the icebergs with her single 5-inch gun and her 40-mm. and 20-mm. weapons. The sea north of the pack is thick with bergs of countless sizes and shapes. At the moment, eighty-six of them are in sight.

The obstacle that has blocked off all other ships from the bay—the antarctic icepack—still lies between the Atka and her goal.

Sulzberger Bay was discovered by Rear Admiral Richard E. Byrd in December, 1929, and named by him for Arthur Hays Sulzberger, the publisher of The New York Times. Admiral Byrd's expeditions in 1934 and 1940 sent sledge parties into the mountains ringing the bay. Admiral Byrd himself flew over it in 1940 in a seaplane.

So far as is known, no ship has broken through the girdling pack to open water inside the bay.

Capt. Robert F. Scott's ship Discovery came close to the entrance of Sulzberger Bay early in 1902, but never saw it in the fog. Admiral Byrd's ship, the Bear of Oakland, pushed her way through the ice-filled waters north of the bay in 1934 and again in 1940. The icebreaker U. S. S. Burton Island tried to round Cape Colbeck, the point of King Edward VII Land on the west of the bay, in 1948 and enter the bay. But all these ships were forced back north by the heavy pack.

The Atka had the same experience last week when she tried to reach Sulzberger Bay by following the coast from the west, after she left Little America.

Before plunging into the pack yesterday, the Atka steamed through a strange world of black water and dazzling icebergs.

About 400 bergs were in sight. Their perspective effect dramatized the vastness of the scene. They were sprinkled across the ocean at distances of a few hundred feet to five miles to twenty miles.

There were the great tabular bergs typical of the Antarctic. They are flat-topped sections of the Continental icecap that float like gigantic wafers on the ocean—each about the size of Governors Island. The top surface is 100 feet above water and the base 500 feet below the surface. Such bergs more than twenty miles away look like chalk lines on the horizon.

There were pinnacled bergs—a type familiar to most Northerners and resembling anything from a cathedral to an alpine peak. They are fragments of glaciers or tabular bergs that have partly melted and have tipped on end.

The absence of soundings on charts for some of the areas through which the Atka has been sailing, indicates how seldom the region has been visited. There is always a possibility of discovering a new island, and each suspicious-looking iceberg is studied to make sure it is not snow-covered land.

ABOARD THE U. S. S. ATKA, Off Antarctica, Jan. 30—Six times this ship has been turned back in her effort to break through the Antarctic icepack and reach the coastline.

The chances of reaching Sulzberger Bay appear slim. The last drive was made at Lat. 73:12 degrees S., Long. 140:05 degrees W., at a point north of Cruzen Island and 350 statute miles northeast of Sulzberger Bay. The Atka has been trying to examine the bay as a possible base site for coming Antarctic explorations.

The ship has been cruising gradually eastward along the fringes of the pack looking for weak spots. The final foray apparently took her farther south in the area off Hobbs Coast than any other vessel.

The U. S. S. Bear, under Rear Admiral Richard E. Byrd, drove

eastward along the shore line from Little America in 1940 and reached a point at Lat. 74:43 degrees S., Long. 143:52 degrees W., off the Ruppert Coast to the west of Cruzen Island, where she moored to the continental shelf ice. Cruzen Island was discovered on a plane flight from the ship and was named for the ship's captain, Richard Cruzen, who became a rear admiral in the operational command of the 1946-47 naval Antarctic expedition

From the easternmost point reached by the U. S. S. Bear no ship has ever broken through to the coast for 1,500 miles around the continent to Alexander I Island.

Planes that have penetrated the continent have reported peaks that rival the Alps in elevation and grandeur. One of the most magnificent is Mount Siple, whose volcanic cone rises in lonely splendor to about 15,000 feet. It was discovered in 1940 on a flight from Little America with Paul A. Siple, a Boy Scout who became one of Admiral Byrd's right-hand men, as navigator.

Mount Siple's exact position and elevation are guesswork, and one of the Atka's tasks is to try to pinpoint them. This afternoon the Atka was 185 miles northwest of the peak.

The Atka is pushing eastward on the fringes of the pack, still looking for an opening. If a breakthrough in this area proves impossible, penetration near Mount Siple will be the next objective.

ICE IN ANTARCTIC HALTS ATKA ANEW

Icebreaker Fails in Effort to Reach Uncharted Coast Near Mount Siple

ABOARD THE U. S. S. ATKA, off Antarctica, Jan. 31 — This icebreaker slugged at the antarctic icepack for twelve hours last night with its 6,500-ton fist.

The results were so encouraging that hope ran high that the ship would reach the least explored coastline of Antarctica, a shore never sailed by any vessel.

By morning more than sixty-three miles of pack had been breached. But the venture ended in disappointment and retreat.

The effort began in the evening as the ship steamed along the northern fringes of the drifting ice that girdles Antarctica. The pack appeared to become looser and so the ship nosed into it on a southerly course toward the coast.

For several hours she was able to keep up a pace of eight knots through the loosely packed floes. Then the ice became thicker and the web tighter.

Finally the ship could no longer push steadily forward. Pressure ridges that at times rose almost to the level of the bridge crisscrossed the floes like ribs. Since the heavier floes themselves with their snow cover were fifteen feet thick these superimposed ridges made them impenetrable.

The ship plowing forward would skid up on them and stop dread as if she had hit a seawall. Its 6,500 tons was not enough to crack the floes. The ship had to slide off and push its way around the floe. By 5 A. M. she was making only one mile every hour.

The ship must keep working eastward to have time to find a base site on the Weddell Sea and reach Buenos Aires by March 18. The icebreaker is so powerful it probably could reach the coast at almost any point in an emergency, but this would involve a serious risk of damage or besetment.

Besetment occurs when open water freezes, locking ice floes together and imprisoning a ship.

The first attempt to reach Sulzberger Bay was made after the Atka had left Little America and sought to round Cape Colbeck along the route used by the Bear. The pack was pressed against the shore beyond the cape, so the Atka returned to do a survey of Kainan Bay.

Then she sailed north and attempted to run around the heavy pack north of Cape Colbeck. In succeeding days the ship repeatedly plunged south into heavier ice.

The ship's course had been set directly for the charted position of Mount Siple still more than 100 miles farther south. This great volcanic cone has been seen only from aircraft. Its position and height are uncertain. Estimates of elevation vary from 10,000 to 15,000 feet and conflicting reports place it in locations seventy miles apart.

The sun set last night for the first time since the Atka reached the Antarctic on this expedition. It skidded along just below the horizon for a couple of hours then rose where it should have silhouetted the mountain.

In the heated crow's nest aloft the lookout scanned the southern horizon beyond the dazzling fields of snow-covered ice. Others on lofty vantage points below him did likewise, all to no avail.

There were radar indications of uncharted islands to the west but Mount Siple was not to be seen. Nor was there any hint of open water ahead. Ice-free water along the coast was reported by planes of two earlier United States expeditions.

Comdr. Glen Jacobsen, leader of the expedition, decided to send a helicopter up to have a better look. At 500 feet elevation the craft reported by radio, "Nothing in sight but ice in all directions."

With a tight work schedule confronting him in other parts of the Antarctic, Commander Jacobsen ordered the Atka to reverse course and follow her own channel back through the pack. In this way she is now making good speed to open water up north.

In her southward drive the Atka is believed to have penetrated this sector farther than any ship in history even though she fell short of her goal. Her position at 8:30 A. M. was Lat. 71 degrees 20 minutes S. Long. 126 degrees 14 minutes W.

The Atka proved to the satisfaction of this expedition's members that a vessel with her power, build and weight could reach the Mount Siple area of the coast if she had enough time.

Today's disappointment was most keenly felt by the geodesists who have made the long trip south primarily to pinpoint landmarks such as Mount Siple. They wish to take sun observations at rock outcroppings visible in aerial photos of earlier expeditions to determine their position and make photos usable for the creation of charts.

A submarine mountain was discovered last night rising 10,000 feet from the ocean floor 13,000 feet below the water surface. The mountain was twenty miles wide at its base. Possibly it is a manifestation of the same volcanic disturbance that produced Mount Siple.

There are active volcanoes in the Antarctic but the aerial glimpses of Mount Siple disclosed no smoke.

A crack in the bay ice on Kainan Bay had to be bridged so that a weasel, a sort of tracked jeep, could reach the head of the bay. Here a few of the Atka's men haul the first bridging timber into position. Aft of the weasel is a sled loaded with pierced metal planking.

THE ATKA SEEKS UNKNOWN COASTS

Antarctic Ship Stabs at Ice of Amundsen Sea Toward Reported Mountains

ABOARD THE U. S. S. ATKA, off Antarctica, Feb. 2—In the hope that a circulatory ocean current may open a chink in the icepack, this ship again turned south today.

If a way through the pack is found, this Navy icebreaker may be the first ship to break through to the little explored coastline of the Amundsen Sea. The Atka is now 150 miles northwest of Thurston Peninsula, which forms the eastern boundary of that sea. The peninsula terminates about Long. 98 W., Lat. 71:20 S.

The suspicion that there is a clockwise circulation of water and pack ice in the Amundsen Sea is based on the observance of such rotary movement in two other seas bordering Antarctica —the Ross Sea and the Weddell Sea.

The effect of the movement on the pack differs in the two seas because of their dissimilar shapes. In the Weddell Sea, the least congested entrance for a ship is from the east. In the Ross Sea it is from the west.

The Amundsen Sea is not so large as the Ross Sea or the Weddell Sea, and its exact shape is unknown. Although no ship has reached the continent here, planes on several occasions have crossed the belt of pack ice and have seen high mountains.

Nevertheless, after seven frustrated attempts last month to breach the icepack that girdles Antarctica, leaders and men of the Atka party are slow to be optimistic. They still have 100 miles to go through a sector of the pack that for a century has been probed in vain by other explorers.

The pack varies in width from fifty to 500 or more miles. This year it was unusually narrow and close to the coast. By the same token, it was compressed, with few leads or pools of open water among the floes.

The pack encountered last night northwest of Thurston Peninsula, was markedly different from the compact but "rotten" ice encountered farther west. The floes were heavy, indicating they were sections of frozen ocean that had been blown out from close inshore. Every time the Atka hit a floe square on, it felt like a collision with another ship, in contrast to the usual gentle crunching.

There was enough water between floes to enable the ship to move toward the coast at a fairly good clip.

While no reason was given for the orders to move east, such a shift was scheduled for about this time. Today's message probably reflected anxiety that a base site in the Atlantic sector be found before the season ends and the South Atlantic pack freezes solid.

The primary mission of the Atka is to find suitable sites at which to base the Antarctic work of the coming years. These sites must be known before Washington can start on the advance planning needed for the undertakings.

The operations just concluded in the Pacific quadrant sought to establish fixed positions for landmarks that appear in aerial photos of earlier expeditions. Once oriented, these photos could be used in map-making. This work will now have to wait until a later stage of program.

The Atka's course is now set for Drake Passage between Cape Horn and Palmer Peninsula. Through those waters, famed as the stormiest in the world, the ship will enter the Weddell Sea.

The Weddell Sea is noted for its formidable rotating mass of pack ice. That ice has trapped

Antarctic Ship Gets Order to Seek Site on Weddell Sea

ABOARD THE U. S. S. ATKA, Feb. 3—On orders from Washington, this ship concluded her exploratory work on the Pacific side of Antarctica today and set out for the Atlantic coast of the Continent.

There this Navy icebreaker is to examine the shoreline westward from Cape Norvegia looking for a suitable place to establish airfield. This would provide an alternate landing place for planes supporting United States efforts in Antarctica during the next few years.

Cape Norvegia, at Long. 12 W and Lat. 71:15 S, is at the eastern point of the Weddell Sea, which is bounded by the Palmer Peninsula on the west.

The Atka is making a preliminary survey for a larger Navy expedition next year. That expedition will prepare for the work of the International Geophysical Year 1957-58, when two-score nations are scheduled to carry out coordinated and far-ranging terrestrial and meteorological studies.

For the Geophysical Year, the United States has undertaken to establish three outposts in Antarctica. One of these is to be directly at the South Pole and another in Marie Byrd Land at about Long. 120 W. and Lat. 80 S. Both of these posts will probably have to be established and supplied by air from a main base at the coast. A site at Kainan Bay, at Long. 161:55 W. and Lat. 78:14 S., just to the east of abandoned Little America, has been contemplated for the third post.

The orders for the Atka to shift operations to the Atlantic sector as the ship was making what probably would have been her final attempt to breach the icepack of Amundsen Sea. The ship had penetrated well into the pack off Thurston Peninsula, 98 W. and 71:20 S., and was within 125 statute miles of the coast.

It was too early to tell if the breakthrough attempt would have been successful. Since her arrival in Antarctica last month, the Atka had already made seven vain efforts to get through the pack that blocks off the shoreline between the Ross Sea and Palmer Peninsula.

An apathetic audience—sleeping seals—sits on its flippers as the Rev. Daniel Linehan of Boston College and C. W. Culkin of Navy Hydrographic Office use an inductor. Instrument emits slight electric current that stops when inductor is aligned with the earth's magnetic field.

many ships through the long winter night. Several have been crushed under the pressures.

The route selected by Comdr. Glen Jacobsen, skipper of the Atka, is designed to circumnavigate the danger area and scout the coast or the Weddell Sea Ice Shelf from the east, where ships in the past have had less trouble. The Atka should reach this area in nine or ten days.

An airfield is sought on the Atlantic side of the Antarctic Continent in case the principal base on the Pacific side is "socked in" by bad weather when planes are in the air. The only suitable site visited by the Atka on the Pacific side was Kainan Bay.

Little America was ruled out when the ship called there last month. A massive breaking off of the Continental Shelf had carried away its harbor on the Bay of Whales, and destroyed half of the latest camp built there in 1947, and the loss of the remaining parts of the camp appeared imminent.

The abrupt ending of the work in Amundsen Sea was a disappointment to those on board, who have the exploratory urge. Nevertheless, to many in the crew, the shift to Atlantic waters is a step in the right direction—home.

Atka Finds Glaciers That Spill Icebergs

ABOARD U. S. S. ATKA, off Antarctica, Feb. 4—A glacier that dumps its icebergs down a 2,000-foot cliff into the sea was slighted today.

This icebreaker pushed briefly off Peter I Island and found that ice blanketing the center of the island rose 4,000 feet above the sea. The peaks were hidden in clouds, but numerous icebergs that drain off the ice were golden in the sunshine as they cascaded into the ocean.

On the western shore of the fourteen-mile-long island was an awesome black precipice rising almost vertically from the sea. At its foot "bergy bits," shattered fragments of icebergs, floated in the water as if newly fallen.

Just below the clouds overhead an icecap 100 or 200 feet thick pushed out to the brink of the cliff and then cut off sharply in a line that zigged and zagged parallel to the edge. Through binoculars those on the ship watched in vain for a section to crack off and plunge the height of two Empire State Buildings into the water.

The patterns of crevasses near the summit indicated the flow over the precipice was slower than that down the valley glacier to the left of the cliff.

Peter I Island, which has rarely been visited, was discovered by the Russians in 1821 and named for the Czar. It was charted by the Norwegians during a week's visit in 1929, and a depot of provisions was left for shipwrecked seamen. The island is claimed by Norway.

The Atka, which is making a preliminary survey for a larger Navy expedition next year, lay to seven miles offshore to make observations. A bomb-like device was dropped 7,650 feet to the ocean bottom and hauled up with a section of slime about a foot long. It consisted of a grayish brown mixture of clay, mud, organic matter and pebbles.

The sea was murky with plant life, even though its temperature is below freezing and icebergs were drifting on all sides.

When drained after being left for half an hour at a depth of 180 feet, a gauze-like plankton net produced a pint of muddy-colored water. The color indicated the sea was teeming with diatoms, tiny plants that, directly or indirectly, provide the vegetable matter for the diet of all Antarctic animals. So far these are the most "verdant" waters encountered on the present cruise.

There was a buzz of excitement when the lookout reported this morning that he saw smoke on the horizon. The Atka's two helicopters were told to investigate and found it was a whale spouting in the distance.

ANTARCTIC CREWS SOUGHT BY NAVY

Five Atka Clewmen Volunteer as Soon as Appeal for Next Year's Expedition Is Made

ABOARD THE U. S. ATKA, off Antarctica, Feb. 5—The Navy called today for volunteers for next year's Antarctic expedition. Hardly had the message from Washington been received when five men aboard the icebreaker leaned up to apply.

After the appeal is officially published to the crew tomorrow there will probably be many more.

Next year's expedition is to carry on work being done by this ship. The Atka is scouting the coast line of the Antarctic Continent for possible base sites to be developed during the southern summer of 1955-56. In the following season, 1956-57, two outposts are to be placed in the interior of the continent, one at the South Pole and one in Marie Byrd Land. These will be manned by scientific observers until the end of the International Geophysical Year early in 1958.

Today's call for volunteers was in the form of a message from the Secretary of the Navy to all ships and shore stations. It set high standards for applicants, saying the requirements were comparable to those for submarine duty.

Those who want to go "must be certified by a medical officer to be physically and temperamentally qualified to withstand the rigorous living and working conditions in the Antarctic," the appeal said. It also said commanding officers must testify as to the suitability of applicants on the basis of their past performance. The men must be committed to at least two more years' enlistment and must pass special medical tests.

Detailed plans for next year have not been made public and will depend partly on the results of the scouting work being done now. The last big Navy Antarctic expedition was that of 1946-47, when 4,000 men on thirteen ships took part.

While so many may not be needed for next year's phase of the program the placement of two outposts, one of them 700 miles inland across the mountains and glaciers, will require an elaborate supporting organization. Ground crews will be needed to service aircraft and vehicles as well as to build camps and air strips.

Today's appeal stressed need for construction ratings—the Seabees of World War II fame. Likewise most types of aviation personnel are listed, plus ordinary ratings such as boatswain's mate and quartermaster.

The new expedition will be brought down aboard "thin-skinned" cargo ships with icebreakers to cut the path for them through the Antarctic ice pack. The preliminary plan calls for a main base on the Pacific Coast of the continent.

The task next year would be to build installations at this site, compact snow on the air strip there and unload supplies needed to place the interior outposts as soon as spring comes.

The most promising base found by this ship on the Pacific Coast was at Kainan Bay on the Ross Sea. The Atka is now en route around the Palmer Peninsula to the Atlantic in quest of an emergency airfield site on the opposide of the continent.

BRITISH SCIENTISTS LISTEN TO WHALES' CONVERSATION

LONDON, May 20 (UP)—More than 650 of Britain's leading scientists listened last night to a "conversation" between whales and agreed it sounded like "rattles, grunts, groans and high-pitched whistles."

The conversation was picked up on recordings by underwater microphone in the Saguenay river in Canada. Relayed to the zoology department of the British museum, it was played back before the audience at the galleries of the royal society.

Some of the whistles, scientists said, sounded like bird calls

Atka Sails Into Atlantic and Weddell Sea As Antarctic Mission Pushes Eastward

ABOARD THE U. S. S. ATKA, Off Antarctica, Feb. 7—This Navy icebreaker rounded the Palmer Peninsula today, passing through Bransfield Strait from the Pacific 600 miles south of Cape Horn. The ship is to explore the eastern coast of the Weddell Sea.

Repeated efforts had been made to penetrate the ice and reach the "solid ground" of the western coast of Antarctica to find a site for a base for future explorations by the United States Navy. The Atka then sailed eastward, and today members of the expedition finally had a spectacular view of the continental peaks thrusting their heads through the icecap. Palmer Peninsula juts 800 miles northward from the main part of the continent and thus pierces the pack.

The snow slopes of the peninsula and of the mountains on near-by islands, some of them rising more than 900 feet from sea, were blindingly white in the sunlight. A thing layer of cirrus clouds hung half-way up the slopes, dividing them like a penciled eyebrow.

The ship is now in the Weddell Sea. Its date of arrival at the coast will depend on the location and condition of the icepack, which has not yet been sighted.

The icebreaker Atka passed into Weddell Sea (cross).

ANTARCTIC DATA CHARTED ON ATKA

Scientists Aboard Icebreaker Record Their New Findings During Exploration Lull

ABOARD U. S. S. ATKA, Off Antarctica, Feb. 12 — For ten days this icebreaker has been steaming eastward around Antarctica to the Atlantic coast. There has been no chance for exploration, but this has been a busy ship nevertheless.

The scientific observers have almost caught up with the "homework" that accumulated as a result of their work ashore at Little America and Kainan Bay on the Pacific coast of the continent.

The crew has been preoccupied with the complex routine of a naval vessel at sea. There have been fire drills, examinations for advancement in rate, lectures. Icebergs, always in sight, have proved ideal targets. They have enabled the five-inch gun crew to iron out kinks in its fire control system and develop marksmanship.

The Atka's mission is to prepare the ground and plan base sites for United States participation in the International Geophysical Year project of 1957-58. This project involves correlated geophysical observations among a number of participating countries.

The ship's day begins at 6:30 when, in the darkened sleeping compartments, loudspeakers come to life with the words, "Reveille! Reveille! Trice up all bunks. The smoking lamp is lit in all authorized places."

The expression means smoking is allowed. It dates from sailing days when all hands lit their pipes from a special lamp.

Ten or fifteen of the crew hasten below to the ship's office. There they kneel in rows on the bare steel deck while the Rev. Daniel Linehan, S. J., says mass. Father Linehan is aboard as a seismic specialist.

In the compartment where the fourteen civilian and officer observers live, the waking is done by Stewardsman Oliver D. Stuart of Elizabeth, N. J., who walks through with a brass triangle. This device when beaten sounds like an old-fashioned village fire alarm, and just as loud.

After breakfast the ship's company falls in for muster on flight deck. The executive officer, Lieut. Comdr. Francis E. Law, issues special orders for the day as the ranks of men sway to keep their balance. On either side of the ship the waters of the Weddell Sea, sprinkled with ice floes, slip by.

The observers take over the wardroom, which is the officers mess, to work on their various projects. Charts of the Antarctic, British and German as well as American, are spread on tables and new data entered on them.

Weather men sit in a corner working on wind information that will be valuable if it is decided next year to lay out an air strip on the ice at Kainan Bay.

Hydrographers label and sort graphic recordings of ocean depths obtained in recent weeks by echo sounding as the ship steamed through uncharted seas.

There are periodic conferences. One of the observers' tasks is to agree on recommendations as to the suitably of Kainan Bay as a major exploration base. Represented at these informal gatherings are the Army, Air Force, Marine Corps and various Navy offices concerned with polar problems, as well as the Weather Bureau, Geological Survey and Hydrographic Office.

In some cases work in the wardroom continues all night, for only then can the charts be worked over without tables being cleared for meals.

This week-end the ship's small games tournaments are drawing to a close. The whist competition has already been won by two stewardsmen. Still to be played off are the cribbage, chess, pinochle, checkers, acey ducey and gin rummy competitions.

In the playoffs, names appear on the tournament plans without rank or rate. A colonel of the Marines is indistinguishable from an apprentice seaman. A sailor in dungarees played off his cribbage match with the skipper in the captain's cabin.

The Navy has learned about brunch stop. Sunday mornings brunch is served from 8 A. M. until noon.

Sunday afternoon virtually the entire ship plays bingo, except for those on watch. Since no single compartment is big enough, the wardroom and the chief petty officers' mess are used as well as the crew's mess. In each a man sits with a battle telephone headset and mouthpiece relaying numbers and the cry of "bingo" whenever there is a winner.

The Atka is in Lat. 66 degrees S. 450 miles northwest of Cape Norvegia. For several days the ship was able to cross the Weddell Sea through waters usually impassable because of pack ice. The pack this year is unusually far south.

Yesterday the ship reached a point in Lat. 69 degrees 27 minutes S. only 310 miles north of the Stancomb-Wills Ice Tongue in Coats Land, but was forced by the pack to sail north. She is now working her way east looking for an opening toward the coast.

Hot Music Is an Issue in Cold Antarctic; Atka Men Split on Boogie Versus Sweet

ABOARD U. S. S. ATKA off Antarctic, Feb. 12—There is a clash on this Antarctic expedition over whether music should be boogie or sweet. The conflict is marked by subterfuge as well as rhetoric.

There are about eight record players spread around the ship, hanging on swinging platforms suspended from springs so that shudders and rolls of the ship will not affect them. The crew has several. There is one in the officers' wardroom, one in the chief petty officers' mess, one in the compartment where the observers live and one in the captain's cabin.

For these players there is a stock of several hundred records. The question is, who gets which.

The stewards who tend the player in the wardroom are unanimous in their appreciation of a certain style of boogie woogie. The users of the wardroom consider this art form particularly cacophonous.

Since the player is automatic, numbers play several times during a meal until someone, in desperation, turns the machine off. The most persistent number is one whose words are repetitious and whose accompaniment sounds like a fire engine with a cracked bell.

In accordance with specific orders, the record frequently has been sent to other parts of the ship in favor of more soothing numbers, such as a rendition of "Believe Me If All Those Endearing Young Charms," played on an organ and electric guitar. In every case it has mysteriously reappeared in the wardroom repertoire.

The ship's captain, Cmdr. Glen Jacobsen, has a private stock that includes some Mozart and Beethoven. There is a batch of Christmas carols that was much in demand two months ago but is now somewhat out of fashion.

The records play an important part in the lives of the men aboard the Atka. What with their remoteness from civilization and static, there are no radio programs within reach.

The ship has thirty television shows on film, plus 100 regular motion picture programs. This is enough to provide nightly shows from the date of ship's sailing last Dec. 1 in Boston until March 20 with no repetitions. The ship is due back in Boston April 14.

Atka Spots Some Whales And Tells British Vessel

ABOARD U. S. S. ATKA, OFF ANTARCTICA, Feb. 14—A bit of British-United States cooperation warmed the frigid atmosphere of Antarctica today. It also may have helped provide a few carloads of margerine for British housewives.

It all began as this Navy icebreaker was nearing the little-known coast of Queen Maud Land. A British whale catcher, the Southern Main, was sighted and greetings were exchanged by radio. Later in the day the Atka spotted several whales near the coastal ice cliffs where the Atka's radiomen went on air they made contact with the Southern Venturer, a factory ship.

"As we are in the business of whales," the British ship replied, "we are most interested. And seeing as how you are in the ice business, we will keep an eye out for ice conditions and report them to you."

HOT SPRINGS BUBBLE ON ANTARCTIC ISLAND

Off the ice-capped Antarctic continent lies an island with hot and cold running water.

Deception Island, a part of the South Shetland chain, about 525 miles southeast of Cape Horn, was once a volcano. Fires still smoulder under ground, melting snow that fills fresh water wells. Hot springs bubble on black-ash beaches.

The island also enfolds a remarkable land-locked harbor, the National Geographic Society says.

The island is a curiosity. Years ago a cataclysm blew off its volcanic cone, leaving a ring of towering black cliffs and a colossal crater. A narrow passage leads from the sea into a spacious harbor, which is hidden from the open sea, probably accounting for the island's name—Deception. From the air the island resembles a big horseshoe with the ends almost nipped together.

Deception's volcanic heart is far from dead. As late as 1842 an American sealer reported the whole south side of the island seemed to be afire. Recent visitors have described the sulphurous stench of hot springs, ghostly vapor, earth tremors and the perpetual warmth of the inner basin's sand and shallows.

A Britisher first sighted the South Shetland Islands in 1819. But Deception was discovered by Nathaniel Palmer, American sealing captain, in 1820.

Since World War II Deception's ownership has been disputed by Great Britain, Argentina and Chile.

ATKA AT LAST HITS ANTARCTIC COAST

Finds Path in Ice and Heads to Queen Maud Land After Seven Attempts Failed

ABOARD U. S. S. ATKA, off Antarctica, Feb. 14—This ship penetrated through a gaping hole in the icepack today to the coast of Queen Maud Land.

The Navy icebreaker was thus rewarded for persistence after seven vain efforts since leaving Kainan Bay last month. Scientific and military observers prepared to go ashore, possibly at Seal Bay, with instructions to determine the suitability of the place as a base site.

It would appear that a recurrent "weak spot" had been found in the 400-mile-wide Antarctic pack that might open a door to the unexplored hinterland. It was the ice that defeated the Atka in her earlier attempts to reach the shoreline.

The decision to examine Queen Maud Land for potential base sites indicated the United States might establish four outposts in the Antarctic during the next two years instead of three, as originally planned. They would form part of a world-wide network of stations taking simultaneous observations during the International Geophysical Year in 1957-58. About thirty-six countries will participate in the year-long analysis of the earth, its atmosphere and outer space.

The United States already has assumed responsibility for three Antarctic stations. One was to have been at Little America, on the Pacific side, but the Atka discovered in January that there no longer was any harbor there. Kainan Bay a few dozen miles to the east was surveyed as a possible substitute. The two other United States stations would be in the interior, one in Marie Byrd Land and the other directly at the South Pole. Britain, France, Argentina, Chile and Australia are among other nations planning stations.

A recent organizational conference of the International Geophysical Year at Rome urged various nations to establish stations to fill critical gaps in the network. One proposed location was the comparatively inaccessible Princess Astrid Coast of Queen Maud Land. It is several hundred miles east of where the Atka is operating.

Today's startling approach to the mainland without bucking even a mile of pack ice, coupled with the experience of other explorers, indicates that the region of Cape Norvegia and Seal Bay could be reached by normal cargo ships following in the wake of an icebreaker.

ICEBREAKER GETS TO COAST: The Atka reached Queen Maud Land (1) on her mission to survey Antarctica for research stations. Outposts may be set up at the Princess Astrid Coast (2), the South Pole (3), Marie Byrd Land (4) and Kainan Bay (5).

The attainment of the coast after so many frustrated efforts lifted the spirits of all on board. As the ship neared the reported position of the coast the executive officer, Lieut. Comdr. Francis E. Law, said, "An extra round of grog for the man who first sights the mainland!" The winner was Seaman Bobby L. Cavender of Sacramento, Calif., who was on lookout duty.

It is hoped a ship's party can be held on the ice before the end of the operation. Seaman Cavender will then collect his prize in the strongest "grog" available —beer.

The Atka has sailed around virtually half of the Antarctic Continent since reaching the Ross Sea coast last month. In terms of longitude she has sailed half-way "around the world."

The ship crossed the Weddell Sea in a direct line for Cape Norvegia, but she ran into a heavy pack when only 340 statute miles northwest of the Stancomb-Wills Ice Tongue on the coast. Then she was forced by a gigantic bulge in the ice to make a long detour north.

Early yesterday the ship had been driven as far north as Lat. 65:06 degrees S., Long. 20 degrees W. A few hours later, in Lat. 65:26 S., Long. 18:20 W., the pack suddenly stopped. The ship was able to turn directly toward Cape Norvegia and steam 455 statue miles without dodging a single ice floe.

Cape Norvegia, discovered in 1930, is about thirty miles west of Maudheim, the camp built in 1950 by a Norwegian-British-Swedish Antarctic expedition. It has been abandoned for three years. One of the Atka's tasks is to see if its harbor, Norsel Bay, is still usable.

The Norsel, the ship that serviced that expedition, made six trips through the pack between 1950 and 1952 without serious difficulty. However, she was blocked in an effort to reach Princess Astrid Coast.

A base with an air strip on Queen Maud coast would provide an alternate landing field for planes laying down and supplying the South Pole station.

Factory Ship Is Heart Of Whaling Expedition

BERGEN, Norway.—The heart of Antarctic whaling expeditions is the floating factory—a ship of some 20,000 tons or more equipped to butcher the 125-ton whale carcases and feed them into vast below-deck furnaces to extract their oil. The actual hunting is done by the factory's little "catcher" boats.

SOVIET FACES CHARGE

Parley May Discuss Taking of Whales Out of Season

LONDON, April 7 (Reuters)—Allegations that the Soviet Union caught whales out of season in the Antarctic this year may be discussed at the International Whaling Commission conference in Moscow in July.

Complaints about alleged "poaching" by the Soviet Union have been received from Norway and some British Commonwealth countries at the commission's headquarters here. Details have been circulated to the seventeen contracting countries to the International Agreement on Whaling. These include the Soviet Union, Norway, the Netherlands, France, Sweden, the United States and the British Commonwealth countries.

An official approach has been made to the Soviet Union. But it is understood that Moscow has informed the commission that the Soviet Union had taken the whales under Article VIII of the international agreement, which enables a certain number of baleen whales to be caught for scientific purposes before or after the season starts.

Atka Takes 6 Emperor Penguins On New-Found Antarctic Coast

Navy Men Get Four of a Bag of Big Birds by Tactics of Football Field

ABOARD U. S. S. ATKA, off Antarctica, Feb. 15—Scanning a coastline where, for a stretch of 850 miles, no human being is known to have set foot, men standing watch on this icebreaker spotted a party of explorers early today.

The officer of the deck was Chief Boatswain Joseph Eksterowicz of Utica, N. Y., a veteran of twenty years in the Navy. He peered through his binoculars at the figures on the continental icecap at a point where it dipped down to within a few feet of sea level—an ideal camp site.

Sea smoke, the form of mist common along these shores, obscured his vision. To the left he thought he could see a camp. He ordered left rudder and brought the ship in to within 300 yards of the ice cliff.

While shipmates slept below, the men on the bridge speculated excitedly. No other known expedition was in this area. Could the figures be Russians?

Then the mist thinned and Chief Eksterowicz ordered the Atka back on her original course. The explorers were seven emperor penguins standing in a group and peering at the ship. The camp was a large cluster of penguins dozing on their stomachs.

A few hours later the Atka captured six of the birds from another colony. Those that can be kept alive will be offered to the zoo in Washington. So far as is known, there are no emperor penguins in captivity in North America.

The emperors are majestic and unique creatures, standing three and one-half feet tall and weighing up to ninety pounds. They are colored black and white in the usual tuxedo pattern of penguins and have small gold patches on the sides of their heads. They can easily be mistaken for men at a distance.

Emperor penguins are found only on or near the Antarctic continent. They require a special air-conditioned habitat to keep them alive in a temperate climate. The Washington Zoo has specialized in these birds, but it is understood those brought back by Rear Admiral Richard E. Byrd's expedition in 1947 have all died.

U. S. Navy

An emperor penguin

Some king penguins, the next largest to the emperors and ranging around thirty inches in height, are in United States zoos, as well as the more common and hardier—in civilization — adelie penguins and the little rockhoppers, a foot high.

The Atka called upon her most agile sailors to catch the penguins. The ship pushed her bow onto low ice at an unnamed bay near the junction of Bruce Coast and Princess Martha Coast. A hunting party set out toward about 100 birds dozing on the ice.

The seamen had to be cautious. A direct blow from an emperor penguin's flipper-like wing can break an arm or leg. The bird can peck out an eye.

The hunt would have warmed the heart of a football coach and brought cheers from the stands. Some of the birds were only seized on the two-yard line, so to speak.

Aroused from their slumber, the penguins first stood up and glared at the intruders. The sailors stalked their game on tiptoe—as much as is possible in heavy rubberized arctic boots. Looking back over their shoulders, the hunted penguins began to walk away.

A walk soon broke into a waddling run. Then both sailor and bird were sprinting across the bay ice.

When hard pressed, a penguin flops on his belly and slides across the ice, pushing with his webbed feet and steering with his wings. In this way he can move twice as fast as a man can run. A sailor had to make his flying tackle at just the right moment.

The penguins that were not chased, watched the hunt in bewilderment. None fled, although a few replied to the angry "Aaawck!" emitted by a bird being trussed up.

After four birds were tackled and two more netted, all were hoisted aboard upside down by lines made fast to their lashed feet.

The six are now riding in one of the ship's landing barges. They will be transferred to a tank the carpenters have just built on the fantail.

The Atka has 500 pounds of frozen fish, brought especially as penguin food. This normally would last the six birds about ten days as they have voracious appetites, but these emperors will probably be slow to start eating in captivity. The specimens are sleek and plump, and penguins are known to survive long periods without food.

Previous expeditions have found the mortality of the birds high during voyage across the tropics en route home.

The safest procedure would be to fly the emperors from the ship's first port of call, Buenos Aires, where she is due in mid-March. However, the Navy has no facilities for such transport.

ATKA'S PENGUINS RESIST FEEDING

It Takes Four Men to Stuff Fish Into Giant Birds —Two Faces Nipped

ABOARD U. S. S. ATKA off Atarctica, Feb. 18—The six emperor penguins brought aboard this icebreaker three days ago have begun to eat fish—and also to nip the noses of those shoving it down their throats.

It takes four men one and a half hours to feed each bird, rebellious against captivity. The sailors devised an ingenious straightjacket to assist in the operation but this upset the birds so much it was laid aside.

The penguins are getting massive doses of vitamins. Experience has shown these are necessary to keep them alive in captivity. The fish they eat is dipped in cod liver oil first.

Word has been received that the Washington zoo will be delightedt to have them.

The first victim of the birds, which stand waist high to a man and are a taut bundle of muscle, was boatswain's mate, third class, Bernard H. Dihrberg Jr. of Freeport, L. I.

It was the general belief on board yesterday that the birds had not moved an inch since being installed in their specially constructed tank on the fantail. They appeared to have stood immobile for two days, all six of them swaying in dignified unison as the ship rolled.

Dihrberg learned they could move and has a red scratch on his nose to prove it. Plans are being discussed to issue special eye protectors to those feeding the birds.

Meanwhile Joseph John Tavares, gunner's mate, second class, of Boston had a similar experience astore. He is a demolition specialist and was boring a hole in icecap in which to set off a charge to determine the thickness of the ice.

When he started there was nothing in sight on the smooth snow surface for miles in all directions. He was six miles inland, which is beyond the usual habitat of Antarctic creatures. Suddenly he felt as if someone was looking over his shoulder. He turned to find a penguin staring down the hole he was boring. Tavares tried to shake hands. The bird nipped his chin.

The care of the ship's penguins has been turned over to Roberty Low Delashaw, boatswain's mate, second class, of Dorchester, Mass. In the Navy a boatswain's mate is the equivalent of a sergeant in the Army. He is the "tough guy" of the sea. Delashaw and his three helpers handle the birds with patience and gentleness.

How Birds Are Fed

One man holds each flipper. Delashaw opens the bird's beak and the fourth man pushes a strip of raw fish down its gullet. Then Delashaw holds the beak shut with one hand and with the other strokes the bird's throat to make it swallow.

Five of the birds ate their second meal today without much fuss, but the sixth shook his head wildly, throwing fish scraps far and wide. He swallowed only about half what was given to him.

The ship has 500 pounds of frozen gurn fillets. The gurn is a variety of fish on the market in New Zealand.

Meanwhile an Atka quoted 'mystery" is under discussion on the mess deck and in the wordroom. It concerns rabbit tracks alleged to have been found on the decks in the morning whenever there has been a light snow during the night.

There are those who solemnly argue that a rabbit might have been secretly brought aboard in New Zealand and then escaped. He might be living among the piles of lumber and other material stored on deck aft for bridging crevasses.

If so he has had a chilly time of it. The temperature yesterday dropped to 7 degrees FH.

Some members of the expedition speak of an Antarctic version of the "abdominable snow man" whose footprints have been reported in the snows of the highest Himalayas. Practical souls say it's either the ship's mongrel pup or a rat.

THE ATKA SCOUTS UNCHARTED SHORE

Navy's Antarctic Ship Works West in Weddell Sea, Then Back Before Ice Peril

ABOARD U. S. S. ATKA, off Antarctica, Feb. 15—This ship scouted the uncharted shores of Weddell Sea today as far as her "point of no return." Then she sailed back toward comparative safety east of Cape Norvegia.

About 175 miles of the Princess Martha Coast were examined between Cape Norvegia, sticking into the South Atlantic at Lat. 12 W., Long 71:15 S., and the Bruce Coast southwestward in the Weddell Sea. A plane piloted by Swedes flew along this shoreline during the 1951-52 season, but so far as is known it has never been skirted by an ocean vessel.

Today's work thus fills in a substantial gap on the eastern shores of the Weddell Sea.

It links the surveys of the Norwegian ships, Norvegia in 1930 under Capt. Hjalmar Riiser-Larsen and Norsel in 1950 on the east with that of Sir Ernest Shackleton in the Endurance to the west in 1915.

The danger lay in the presence of the Weddell Sea pack ice invisible beyond the horizon. It was kept offshore by the wind, but a shift in the wind could push the entire belt of the pack, 400 miles wide, against the shore, imprisoning and perhaps crushing any ship in its path.

The Weddell pack has trapped half of the dozen ships that have attempted to penetrate it. Two were crushed. East of Cape Norvegia conditions appear to be less hazardous. The pack there is narrower, and yesterday it was breached by an open passage.

Hence the skipper of the Atka, Comdr. Glen Jacobsen, limited the run along the Weddell Sea coast to a point from which he was sure he could get back.

Search is being made for a suitable harbor at which an exploratory base could be established. None was found that met all requirements, although several small bay. were sighted. One such, at the farthest point reached by the ship was covered with bay ice and resembled Kainan Bay, at Lat. 78:14 S., Long. 161:55 W., which had been examined as a possible site on the Pacific side of the continent.

The party aboard this icebreaker is making a preliminary survey, looking to a larger Navy expedition next year to lay out bases. The work ahead is that of the International Geophysical Year 1957-58, when thirty-six nations are scheduled to conduct co-ordinated research over the globe.

The Atka nosed into the ice of the newly found bay here to examine the harbor and catch some penguins. This harbor, at Lat. 72:38 S., Long. 17:40 W., was unnamed. Its bay ice appeared too thin for use as a dock and there was no easy access up the cliffs to the continental icecap. The search will be continued east of Cape Norvegia.

The shore here is in the form of ice cliffs, most of which appear to be on the floating shelf ice pushed out over the sea from the continent. This shelf is almost 1,000 feet thick and closely resembles the Ross Shelf Ice on the other side of Antarctica. For long stretches there is no sign of rising ground inland.

The geological formations appear to be in continuation of the mountain chains sighted inland by German planes in 1938-39 and thoroughly explored by the Norwegian-British-Swedish expedition of 1949 to 1952.

The Atka sailed above a series of underwater ridges running out from the coast. These ridges capture passing icebergs.

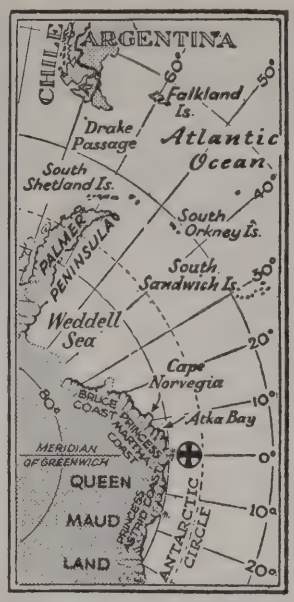
The bergs draw about 800 feet of water. In Lat. 72.04 S, Long. 15:24 W., the seabottom shoaled up 864 feet in 200 yards until it was shallow enough to ground the icebergs. More than forty bergs were trapped along the hump of seabottom that ran far northward. They were arrayed like a white battlement, a phenomenon described by earlier explorers as a Chinese Wall effect.

Since the water was still more than 600 feet deep, this ship sailed through a gap between bergs. The shoal also was marked by deep indentions in the shelf ice, which could be detected many miles ahead by looking at the clouds.

Over water the clouds were black; over icecap or shelf they were white. The sky was in effect a map in mirror image.

The wind was bitterly cold with the thermometer at 16.5 Fahrenheit. The deck force, armed with baseball bats and pick handles, attacked ice that head formed on forecastle, rigging and guns from the flying spray.

Tests of the seawater showed it to be surprisingly meager in diatoms and other minute sea life that is normally abundant in Anatrctic waters. The transparency of the sea runs eighty feet down — the clearest water found anywhere on this operation, Nevertheless, the ice today abounded with seals and penguins.



HARBOR IS EXPLORED: The Atka surveyed a bay on an ice tongue jutting out from Antarctica along the Greenwich meridian (cross).

ATKA SPOTS SITE FOR ICECAP BASE

Bay on Antarctica's Atlantic Shore and Airfield Area the Best Yet Found

ABOARD U. S. S. ATKA, off Antarctica, Feb. 17—This Navy icebreaker has discovered a potential airfield and camp site on the Atlantic side of the Antarctic continent.

Its snow surface is of extraordinary compactness. The snow is, in effect, 1,000 feet deep. Yet one scientist-observer who tested it said, "In a light car you could drive over the horizon in almost any direction without chains."

Adjacent to the site is a great bay twenty miles wide at the mouth and ten miles deep. There is an extensive anchorage in less than 200 feet of water—a rarity along the icebound Antarctic coast.

A chief drawback is the exposed nature of what would be the ship's unloading area. Because the bay is so wide, ocean swells may enter.

The water was comparatively calm during the two days the Atka was there. The expedition completed its survey of the bay and the possible airfield this [Thursday] evening and headed east looking for alternative sites.

The Atka party is in the Antarctic to find possible base sites for a larger naval expedition next year. That expedition's program looks toward the International Geophysical Year 1957-58, when thirty-six or more nations plan to pursue coordinated research about the earth.

This harbor, which members of the expedition are already calling Atka Bay, is regarded as the most feasible base location examined by the Atka party so far on this side of the cointinent.

Atka Bay is on the coast of Queen Maud Land at Lat. 70:33 S., Long. 8:04 W. The ice front along its shores is unusually low, making it possible for cargo ships to discharge their loads directly onto the icecap.

The icecap at some points is only fifteen feet above sea level. At most Antarctic bases, such, for example, as Little America, cargo must be unloaded onto a frozen part of the bay then hauled up a snow ramp onto the icecap. Most bays sighted on this trip were bounded by ice cliffs with no suitable ramps up them.

The Atka last night dropped her anchor for the first time since leaving New Zealand. This anchorage in Atka Bay is unusual in that, around most of Antarctica's 14,000 miles of coastline, the ice shelf pushes so far seaward that it keeps ships offshore in water too deep for anchoring.

The Atka flew polar specialists by helicopter six miles inland from the bay to an area that was clear of the coastal crevasses. Tests indicated the snow would require a minimum of artificial compaction to make it suitable for use as a landing strip by wheeled planes.

The Rev. Daniel Linehan, S. J., Boston College seismologist, set off a series of TNT explosions atop the icecap at the location. Although he has not had time to analyze his record of resulting echoes, Father Linehan says indications are that the icecap is more than 1,000 feet thick and rests on solid ground.

Many Antarctic expolrers have had to build their camps on floating shelf ice, parts of the continental icecap pushed out over the sea. Such camps are constantly in danger from the "calving" of the shelf—its breaking of finto great flat-topped icebergs.

As this expedition discovered last month, half of the last camp built by the Navy at Rear Admiral Richard E. Bird's iLttle America in 1947 was destroyed by the calivng. The German Weddell Sea expedition in 1911-12, under Dr. Wilhelm Filchner, had hardly finished its winter camp at Vahsel Bay (Lat. 77:50 S., Long. 35 W.), when the entire section of icecap on which he camp was built went to sea. The men had been rescued by their ship, the Deutschland.

Yesterday the Atka visited Norsel Bay, the site of Maudheim, base of the Norwegian-British-Swedish expedition of 1949-52. The harbor was snug but there was no satisfactory place for a cargo ship to unload. The dock of ice used by the 1949-52 expedition had broken off.

An Atka helicopter located the masts of Maudheim but huts were buried in snow. The 'copter could not land there because a rising sun had begun so draw sea-smoke fog from the bay.

The pilot, Lieut. (j. g.) Marion T. Tilgham of Weldon, N. C., said by radio that visibility was deteriorating. He was ordered back to the ship at once.

ATKA'S CREWMEN HAVE BEER ON ICE

Antarctic Unit, on Last Stop, Goes Ashore to Study Base Site and Enjoy a Respite

ABOARD U. S. S. ATKA, off Antarctica, Feb. 19 — This Navy icebreaker "spliced the main brace" today. Her crewmen received a ration of beer on a nearby ice field.

Navy regulations forbid drinking alcoholic beverages aboard ship, where it was 18 above zero on the deck. It was somewhat colder ashore and the beer began to freeze, so each man sought to beat the frost to it.

Splicing the main brace, an old naval custom reserved for special occasions, involves the issuing of an extra ration of grog all around. Grog has long been taboo in the United States Navy, but during World War II the custom grew of carrying beer to be issued to crews ashore in remote places. This is probably the last landing the Atka will make during this operation.

The Atka is surveying a harbor and potential base site in a bay area on the western side of a thirty-mile-wide ice tongue that juts forty-four miles from the Antarctic Continent along the meridian of Greenwich, England. The ship is trying to locate potential sites to serve as bases for future exploration by the Navy.

The bay, which is near the coastal end of the ice tongue, is unnamed. Comdr Glen Jacobsen, the captain of the ship and head of the expedition, decided to recommend that it be named Admiral Byrd Bay, after the United States' foremost explorer of this continent.

There is no previous record of a landing in the region and the ice tongue also is unnamed. It is a bleak peninsula of floating ice, but it was a welcome spot for the men of the Atka, most of whom had not left the ship for almost four weeks.

Yesterday the Atka had followed the coast to the east from Atka Bay [Lat. 70:33S., Long. 8:04W.] which it had just surveyed, and encountered the ice tongue. Near the tip of the tongue, as had been feared, the ship encountered a heavy icepack that prevented her from rounding the tip and continuing farther east.

Today, being Saturday, was a half-holiday for those in the crew who did not have to work on survey and scientific projects. Those who were free expressed their exuberance in a haphazard football game or in skiing down a small near-by slope.

The crewmen were asked repeatedly over the loudspeaker system not to chase the penguins and seals away. Men who were going ashore later wanted a chance to photograph them. Instead of being driven away, the creatures were herded toward the ship, where they lingered in bewilderment most of the day as yards upon yards of film were expended on them.

The icecap was sprinkled with tripods over an area of several square miles. Around each was a cluster of scientists and their sailor helpers. They were observing the sun, recording the direction of the earth's magnetism, testing the snow to a depth of ten feet and setting off explosive charges to determine the ice's structure.

At one point there was a particularly loud boom and a cloud of black smoke rose into the sky. The seismic party, celebrating the conclusion of its Antarctic operation, had set off all its remaining TNT—120 pounds.

Antarctic Team Sails Homeward After Surveying Best Site Found

ABOARD U. S. S. ATKA, off Antarctica, Feb. 20—This United States Navy expedition concluded its work in Antarctica last night. Its final task was to survey what appears to be the most suitable base for projected operations it has found.

The site was named Admiral Byrd Bay by the expedition's leader, Comdr. Glen Jacobsen, in honor of Rear Admiral Richard E. Byrd, who carried the Stars and Stripes over the South Pole and to other remote parts of the Antarctic Continent.

All other prospective locations for a base camp and airfield surveyed by the Atka, which had made the trip to lay the groundwork for future exploration and research, had drawbacks.

Admiral Byrd Bay is at Lat. 69:34 S., Long. 00:41 W. The other sites considered as possibilities were at Kainan Bay and Atka Bay, the latter having been explored and named earlier in the week. Kainan Bay probably would require an artificial ramp from the bay ice to the plateau of shelf ice, while Atka Bay lacks a sheltered harbor. Either site could be used if necessary, of course.

It was decided to head north for two reasons. Because of the lateness of the season, the presence of pack ice obstructs penetration farther eastward. Also, the ship lacks some of its punch as a result of the cracking off of a blade on one of the two propellers.

A quick muster showed all 276 men were aboard. The Atka headed out to sea with all hands lighthearted to have the bow pointed toward home.

Before the ship can have clear sailing en route to Boston via Buenos Aires and Rio de Janeiro, it must pass through the Antarctic ice-pack. A report from the British whale factory ship Southern Venturer indicates the pack ahead may have dissolved.

Admiral Byrd Bay is an indentation in a floating tongue of ice that projects more than forty miles from the icebound coastline of Queen Maud Land. It is almost five miles deep, two and a half miles wide at the mouth and 300 yards wide at the head, where bay ice twenty feet thick makes an ideal dock.

From the bay ice the snow slopes up to the top of the tongue on all sides. The snowy plain is 135 feet above the sea, indicating that the tongue is almost 1,000 feet thick.

When the Atka dug her ice anchors into the bay ice early yesterday, a six-man scouting party went ashore. The men, traveling on skiis and linked by rope, found an easy route up to the plateau. The ship was notified by radio that the trail was safe for vehicles and two Weasels, World War II tracked vehicles, were put ashore.

The Weasels carried parties of specialists to test a prospective runway site on the plateau. All their reports were enthusiastic. No crevasses or pressure areas were found.

The Atka's two helicopters took off as the sun came out and did a photographic survey of the area. At 1,000 feet it was possible to see across the ice tongue, which is about thirty miles wide. To the south there appeared to be an open route to the interior of the continent.

The stability of the unnamed ice tongue at Admiral Byrd Bay cannot be predicted with assurance. Nevertheless, observers feel it will not break off and float to sea for a long time.

Antarctic tongues are somewhat of a mystery. The rest of the icecap flows from the continent inch by inch, cracking off into icebergs along a more or less straight front. However, about a dozen tongues around the 14,000 miles of continental coastline thrust out as much as 100 miles from shore.

The tongues appear to flow slowly seaward—perhaps from deep continental faults or valleys—discharging icebergs primarily at the tip. If this is the case here, Admiral Byrd Bay has a good chance of enduring since it is on the western side of the tongue a long way from the tip.

ABOARD U. S. S. ATKA, at Sea, Feb. 22—This ship crossed the Antarctic Circle today bound for Buenos Aires after forty-one days of exploration around half Antarctica.

The Atka had steamed 7,500 miles since entering Antarctic waters at Scott Island, near the International Dateline, on the course south from New Zealand. Five landings were made, all but one of them on shores never before visited by man.

The ship, northbound from the continent last night, found the same remarkable absence of pack ice that made it possible to reach the coast of Queen Maud Land on Feb. 14.

At most points on her cruise, the Atka encountered the pack farther south than has been previously noted in the reports of earlier explorers.

It is possible this was an unusual year. On the other hand, the phenomenon may be further evidence of the warming cycle in the earth's climate. Intensive studies of this change are in prospect. The voyage of the Atka was in part to survey possible locations for observation camps during the International Geophysical Year 1957-58.

The laying down of coastal bases next year will depend on the ability of icebreakers like this one to find or hew paths through the pack that will be safe for ordinary, thin-skinned cargo ships.

One of the objectives of the research in the International Geophysical Year will be to determine through world-wide studies the rate at which the earth is becoming warmer. Some observers believe the tempo is so rapid that within the time of some persons now alive the Arctic pack ice will thaw in summer. This would open the Canadian and Soviet Arctic coasts fully to shipping. If the conditions prevailed in Antarctica, ships could everywhere reach the 14,000-mile coastline, most of which has never been sailed.

The Atka passed Scott Island Jan. 11. Because of the jagged, rocky surface of the island plateau, plans to land a geologist and seismologist by helicopter were canceled.

The icebreaker made her first landing at Little America, where the bay was found to have vanished through the breaking off of hundreds of square miles of the Ross Shelf Ice. It may be that a new bay will ultimately form there as the icecap flows seaward.

The ship sailed east from Little America inside the pack to try to find a base site in Sulzberger Bay. The way was barred by heavy floes. Before the Atka could extricate herself a submerged spear of ice lopped off one of the three blades of the ship's thirteen-ton starboard propeller.

The ship made a landing at Kainan Bay, at Lat. 78:14 S., Long. 161:55 W., where on Jan. 22 one of the three helicopters crashed while ferrying observers onto the ice plateau. The pilot, Lieut. (j.g.) John P. Moore of Lenoir, N. C., was killed. Kainan Bay was regarded as a possible base site.

The ship then made three further attempts to enter Sulzber-

ger Bay, after circling north of the pack. When these thrusts were blocked, the Atka continued eastward, trying to turn to get through to Cruzen Island, Mount Siple and Thurston Peninsula, all without success.

Rounding Palmer Peninsula the Atka found the Weddell Sea pack likewise farther south than had been expected from the records of previous visits. North of Cape Norvegia on the east, there was no ice at all, enabling the ship to sail unhindered to the coastline. The departure last night was from east of the cape, between the 4th and 5th degrees west longitude. No ice was seen there, either.

During her skirting of the Weddell Sea shore, the Atka made a landing in a small bay at the junction of Bruce Coast and Princess Martha Coast.

The place was thought unsuitable as a base location, but some emperor penguins were captured there.

No good landing place could be found at Maudheim, the site of the camp of the Norwegian-British-Swedish party of 1949-52, near Cape Norvegia, but a spot farther east was surveyed and named Atka Bay. It is on the coast of Queen Maud Land at Lat. 70:33 S., Long. 8:04 W.

Finally, what appeared to be an excellent site was found on a small bay close to the Greenwich Meridian. Here, more birds were caught, so the ship now has seven emperor penguins and five Adelie penguins.

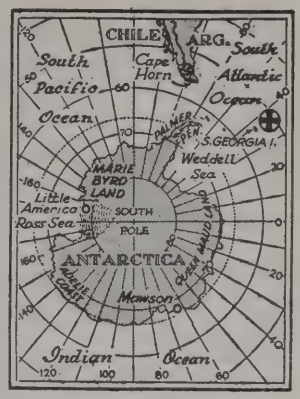
The work of the expedition is not over. The scientists aboard are continuing their observations of cosmic rays, sea temperatures at various depths, high altitude weather and certain forms of radio static. The officers' wardroom between meals is a busy office where all toil at their reports.

50-MILE ICEBERG DELAYS THE ATKA

ABOARD U. S. S. ATKA, at Sea, Feb. 25 — An iceberg so enormous that it took four hours to steam past it diverted this ship today from the straight course she had set for Buenos Aires and home.

It was the largest berg seen by this expedition, which had surveyed prospective base sites on the Antarctic continent. The dimensions could only be guessed since only one facade about fifty miles long was seen.

The iceberg was tabular, a variety peculiar to the Antarctic. It is formed when the ice sheet over the continent pushes out to sea and then cracks off in one vast chunk. The result is a flat-topped berg, bounded on all



Where berg was met (cross)

sides by vertical ice cliffs that rise about 100 feet above the water and extend 800 feet below the surface.

It was the break-off of such a massive section of the ice Barrier at Little America that destroyed the usefulness of that location as a base for exploration.

The giant sighted today was surprisingly far north for so large a berg. It lay ninety-five miles north of the island of South Georgia and may be the last outpost of the Antarctic to be seen on this cruise.

It was difficult to believe the ice was not on land. Along its entire length the upper sections of the cliffs were shrouded in mist. Huge caverns of a luminous deep blue had been eaten into the cliffs by the sea. Arrayed in endless succession, they resembled the arches of a viaduct.

These are the "wrinkles" on the face of an iceberg that mark its age. The smooth-faced bergs are the young ones.

The monster had produced its own young. Near by were smaller bergs whose cavern patterns indicated they had been "calved" from the large berg. One of these was more than a mile wide.

The assistant navigator, Lieut. Leo H. Grove of Saugus, Mass., was a victim of mock indignation on the part of the officer of the deck, Lieut. George W. Huse of Weymouth, Mass., who had to alter the ship's course to bypass the berg.

"Hey, navigator," he called, "are you sure you haven't got us back to the Barrier?" At that moment the Barrier on the Antarctic mainland was 1,750 miles to the south.

The Atka paused briefly this noon to make some engine adjustments. The penguin keepers lowered a boat and headed for the nearest iceberg. They hacked off large lumps of snow to make the captive birds feel more at home. The effort was not made merely for morale purposes, for the birds will not drink water. It is assumed they are used to eating snow and ice.

There are seven emperor penguins and four little Adelie penguins in the tank aft. One of the Adelies is moulting. As a result its temper is as short as its appearance is ridiculous. The other birds snap at it and it croaks and snaps back.

The birds have begun to eat their raw fish willingly. The keepers are pleased, since the penguins had lost the sleek plumpness they displayed when captured.

Steaming along the Antarctic coast before heading north, the Atka had discovered what was nicknamed a "belching barrier." Every now and then it emitted a series of white clouds from the ice cliffs. It was found that a strong side current had eaten away the ice at water level, leaving a great cavity. When a rising swell filled this with water, the air forced out blew great clouds of snow off the face of the cliff.

This ice formation apparently explains the death of three of four explorers who, during a fog several years ago, drove off the ice cliff. All were thrown into the icy water. One, who crawled atop an ice floe and later was saved, watched the others clawing at the ice cliff until sucked under it. Probably they were drawn under an overhang by the side current.

ATKA CREW KEEPS WEATHER EYE OUT

Balloons Sent Up to Record Data Reported 120.3 Below Zero, But Over Equator

ABOARD U. S. S. ATKA, at Sea, Feb. 26—In its daily probing of the atmosphere this U. S. Navy Antarctic expedition has recorded a temperature of 120.3 degrees below zero Fahrenheit. It was not found over the polar icecap but near the Equator.

The observation was made by a radio-equipped balloon at an elevation of 10.8 miles. It was the lowest reading recorded throughout the Antarctic operation.

Temperature tends to be lowest over the Equator because the stratosphere, the upper part of the earth's atmosphere, is higher there than anywhere else. The air gets colder as altitude increases until the stratosphere is reached, when it begins to get warmer.

One of the Atka's observations in the equatorial region showed the stratosphere to be at least twelve miles up. Off Antarctica it sank as low as three miles above the earth. In winter it sinks even lower.

Some meteorologists believe that during the polar night it settles onto the surface of the Antarctic Continent, displacing the troposphere, the atmosphere inside the stratosphere.

This and many similar questions should be answered by the coordinated world-wide weather observations planned for the International Geophysical Year in 1957-58. The Atka's voyage to the Antarctic has been in preparation for that program, in which thirty-six nations will study the physics of the earth, its atmosphere and outer space.

The Atka carries a team of Navy weather men under Chief Aerographer's Mate Louis S. Zeller of Orlando, Fla. The United States Weather Bureau is represented by Paul A. Humphrey of Memphis, Tenn., who also is acting as liaison with Washington planners of the United States' role in the geophysical year.

The ship sailed from Boston Dec. 1 with enough helium gas for four and a half months of balloon observations. These were made twice daily in the Antarctic. On the way home now one balloon is sent aloft each day.

New light was thrown on the movement of storm-producing low-pressure areas across the Weddell Sea. Observations, with those of the Norwegian-British-Swedish expedition of 1949-52, indicate these "lows" move southeast across that sea rather than remaining stagnant, as previously believed.

There have never been enough observation stations in the Antarctic to draw an adequate weather map of that region. When such maps are drawn daily during the International Geophysical Year, they should help solve the riddle of Antarctic storms, whose winds are said to be the fiercest in the world.

The weathermen have had a rough time launching their balloons in a stiff wind without damaging the instruments, which cost about $25 a set. One set must be expended for each observation. The balloons are released from the stern between a tank of live penguins and a cluster of oil drums. A gust of wind can dash the instruments to pieces unless the release is made at the right moment.

The height of observations is limited by the ability of the balloons to withstand decreasing air pressure.

The Atka has been lucky in weather. The worst storm, encountered early this week, had winds no stronger than fifty miles an hour. The lowest surface temperature was 7 degrees above zero when the ship was off Queen Maud Land Feb. 17. The coldest upper air over the Antarctic, 76 degrees below zero, was detected two days earlier at 5.6 miles.

ATKA COMPLETES COSMIC RAY CHECK

New Light Thrown on Shape of Earth's Magnetic Field in Polar Ship's Survey

ABOARD U. S. S. ATKA, at Sea, Feb. 27—Recording devices aboard this ship have completed a survey of cosmic rays from the Arctic to the Antarctic.

While one apparatus detected incoming mesons, another recorded neutrons, thus capturing the two most important components of the cosmic rays that reach the earth.

Cosmic rays are showers of electrical energy that reach the earth from outer space. Mesons are mysterious subatomic particles of varying characteristics that are formed among other ways, when cosmic rays hit atmospheric molecules far above the earth. Neutrons, similarly formed, are subatomic particles that have no charge.

According to one theory, mesons are believed to be the "cement" that holds atoms together, and neutrons are believed to be components of the nuclei of atoms.

The objective of the survey was to determine changes in intensity of neutrons and mesons with movement toward and away from the geomagnetic poles. New light has been thrown on shape of the earth's magnetic field, and science has moved a step closer to finding the source of the rays themselves.

The project is jointly sponsored by the Institute for nuclear studies at the University of Chicago and the National Research Council of Canada. To the former it is known as the Air Force Cosmic Ray Research Project No. 2.

Cosmic ray work in polar areas is regarded as vital by nuclear physicists, many of whom believe the key to the source of the rays may be found there.

The nature of the mechanism that creates the rays is probably the chief unsolved problem in the realm of nuclear physics. It fires the imagination, for the energies of cosmic particles greatly exceed those resulting from an atomic bomb.

The polar regions are significant because only there does the magnetic field of the earth approach the vertical. This permits penetration by low-energy cosmic particles that in other latitudes tend to be deflected at high altitudes.

The variation according to latitude has been dramatically demonstrated on this cruise. Low-energy particles reach the earth in the form of neutrons. Near the Equator they were striking the Atka's recording devices at the rate of 5,500 an hour. As the ship sailed south the tempo increased steadily until it had almost doubled in Antarctic waters.

High-energy particles, represented by mesons, increased only 10 per cent with the same change of location.

Another result of the survey has been to show that in the Antarctic as in the Arctic the rate of increase does not continue steadily as one nears the geomagnetic pole.

At a distance of about 1,900 miles from the pole the neutron rate levels off and no longer increases as one moves toward the pole. The meson rate levels even farther from the pole.

The reason for this leveling is uncertain. Presumably some limiting factor other than the earth's magnetic field comes into play.

The initial observations with equipment on this ship were made last summer aboard the Canadian naval icebreaker Labrador. It circumnavigated North America, steaming through the Northwest Passage across to the north geomagnetic pole.

The instruments were then hastily shifted to this United States Navy icebreaker for its Antarctic cruise. The project is international. An Australian physicist, Dr. Keith B. Fenton, is in charge of the Canadian-owned equipment aboard this United States ship.

The rays that produce the particles bombarding these instruments have energies reckoned in billions of electron volts, regardless of whether they are classed as high or low energy types. In outer space they are believed to be swiftly moving nuclear particles, primarily protons.

These with high energy produce mesons when they strike the atmosphere. The weaker particles produce neutrons. Despite their impact these particles are considered too minute to be a potential source of energy.

Their significance is as a clue to the tremendous and as yet mysterious nuclear activity in the universe.

There are said to be as many explanations of cosmic rays as there are nuclear physicists. The Atka visited Antarctica to select observation sites for the International Geophysical Year 1957-1958. The work of the latter should taleast eliminate a considerable number of these rival theories

ATKA MAN 'SEES' BABY

Photo of Newborn Transmitted by Facsimile Equipment

ABOARD U. S. S. ATKA, at sea, March 2—A member of this United States Navy Antarctic expedition now on its way home via Buenos Aires "saw" his baby today for the first time.

Radioman 3/C William K. Folck is one of five men on this ship whose wives have borne children during the expedition. His was a special case because he happened to be on watch at the ship's radio when the announcement message came.

A photograph of the baby was obtained by The New York Times from the grandparents, Mr. and Mrs. Delos Folck of Buffalo. It was sent as part of a series of test transmissions to the Atka by Times Facsimile.

ATKA EXPLORING OCEAN CURRENTS

Ship Drops Plastic Envelopes Overboard in Up-to-Date Version of Bottle Mail

ABOARD THE U. S. S. ATKA, Feb. 28—This ship mailed 600 letters yesterday by throwing them overboard.

Altogether 2,500 envelopes have been tossed into the sea during this icebreaker's Antarctic operations in an effort to find out where the waters flow from the bottom of the world. Yesterday's batch was the last and went over the side as the icebreaker entered the warmer waters of the South Atlantic.

Each letter consists of a postcard sealed in a transparent plastic envelope. The card is addressed to the United States Fish and Wildlife Service, Ann Arbor, Mich. The finder is asked to jot down on the card where it was found and drop it into the mail.

[At Ann Arbor it was reported that no post cards had yet been received.]

These envelopes are thus a modern version of the bottled messages from shipwrecked sailors. Ocean currents in this area are little known. The project is part of a general program of oceanographic work conducted during the Antarctic expedition now drawing to a close.

When the envelopes wash up on South Atlantic beaches they may cause some undue excitement. They state in their message to the finder that they were set adrift in the Great Lakes of the United States.

They are left over from research into Great Lakes currents and were the only ones available for this trip to the Antarctic. Although this may startle Brazilians on Copacabana Beach it will not confuse the Fish and Wildlife Service in Ann Arbor.

The cards are numbered and the survey will show where each was actually dropped.

The Fish and Wildlife Service has tried everything from bottles to postcards. Bottles work better but are bulky and expensive. Often they are dropped by the tens of thousands and so many battles take up much space on a ship.

During the Great Lakes survey about 60 per cent of the bottled messages were returned whereas only 10 per cent of the postcards came back. Last year New Zealand cast 20,000 cards into neighboring seas. When the Atka called there in January none had as yet been recovered.

A bottle from New Zealand seems to have done better. It was recently reported found off Bristol, England. Presumably it drifted through Drake Passage south of Cape Horn into the Atlantic, then into the Gulf stream and past Iceland to the British Isles. The trip reportedly took eighteen years.

This vessel's oceanographic work began when it passed through the Panama Canal en route south to New Zealand and the Antarctic. Ocean temperatures were taken hourly to a depth of about 600 feet. As the ship neared the Antarctic Convergence, this was stepped up to every half hour.

The Convergence is where the warm waters of the Atlantic, Pacific and Indian Oceans meet the frigid seas around the Antarctic. Because of current movements not yet fully understood the change in temperature is sudden and marked.

This sharp but invisible line means life or death to myriads of tiny sea creatures and to the great whales that pursue them. Even the sea birds know where it lies.

When the area of the Convergence was reached the ship's "hydro team" began throwing envelopes overboard every two hours. This was continued two days until the Convergence was well passed.

Petrels and the great wandering albatross with its twelve-foot span of motionless wings swooped hungrily at the envelopes. Some were probably punctured and doomed to sink but most appeared to escape the sharp beaks.

The oceanographic program has been directed by Dr. Willis L. Tressler of College Park, Md. He is an oceanographer of the Navy Hydrographic Office.

Japanese Bag 1,092 Whales

KOBE, Japan, April 16 (AP)—One of Japan's three whaling fleets returned from the Antarctic today reporting a postwar Japanese record of 1,092 whales. The mother ship Tonan Maru carried 6,346 tons of whale meat and 8,660 tons of oil. Eighteen fleets from six countries hunted whales south of the Antarctic Circle during the season.

THE ATKA CHARTS LIGHTNING FLASH

Scientific Experiments as to Path of Its Effects Pursued in Antarctic

ABOARD U. S. S. ATKA, at Sea, March 2—Can a ship off Palmer Peninsula in the Antartic "hear" a flash of lightning over Washington? With luck, this ship may bring home an answer.

According to a widely accepted theory, lightning creates impulses that can circle half the world without losing more than a fraction of their power. They pierce the ionosphere, the region of ionized air about twenty-five or forty miles up, which reflects normal radio impulses; and the lightning impulses are highly directional.

If enough can be learned about these impulses they may open up new means of communication and provide new aids to navigation.

The lightning impulses appear on the simplest of radio receivers. Because of their brief musical sound they are known as whistlers. They were first noticed during experiments with long-distance telephone lines in 1919.

Directional research pinned down their origin in electrical storms. Finally, in 1953, Dr. L. R. O. Storey of Cavendish Laboratory, Cambridge, England, reported that the whistlers seemed to follow the lines of the earth's magnetic field. [The magnetic field is the portion of space near a magnetic body, or a body carrying a current, in which the magnetic forces due to the body, or current, are sensible.]

This would mean that when lightning strikes the Washington Monument, it sends an impulse soaring into space along an arc of magnetic force that at its crest reaches an elevation of 10,000 to 15,000 miles. The impulse would then continue along that line to a point where the line of magnetic force re-enters the earth. This point is known as the magnetic conjugate, or point of origin.

Thus, the whistlers' speed is less than that of radio waves, which echo off the moon in roughly the same time. The Atka was asked to conduct a "crucial experiment" to test this theory.

The experiment consisted of making simultaneous recordings of whistlers at opposite ends of lines within the earth's magnetic field. Observatories at Washington, Hanover, N. H.; Palo Alto, Calif.; Boulder, Colo., and Seattle, Wash., all listened for whistlers.

Locations of the conjugates of these places were computed. All were far to the south, some of them close to Antarctica. When the Atka reached its nearest position to these conjugates, the whistlers were recorded on magnetic tape. Radio time signals from Washington ticking in the background recorded the exact time for later matching with recordings made in the United States.

Amory H. Waite of the Army Signal Corps was in charge of the work on the Atka. It was not an easy job.

An earlier experiment gave some support to a theory that the impulses follow geomagnetic lines. Attempt was made without success to correlate whistlers heard in New York and Seattle. Yet when a similar experiment was made between Seattle and Palo Alto 23 per cent of the whistlers could be coordinated.

Seattle and Palo Alto lie in the same magnetic line, whereas New York and Seattle do not.

When the Atka reached New Zealand in January the ship had already passed the points magnetically conjugate to Palo Alto and Boulder. Tape recordings for about fifteen hours of observation were shipped home. Stanford University at Palo Alto reported twenty-one whistlers apparently correlated.

Base laying operations for the United States' part in the work of the International Geographical Year 1957-58 are due to start in the Antarctic less than a year from now. The Atka is now heading for Buenos Aires on her way home from a preliminary survey.

TALKS ON WHALING MAPPED IN MOSCOW

WASHINGTON, June 18 (UP) — The International Whaling Commission will meet at Moscow July 18 to consider problems related to conservation of the world whale population. Representation from seventeen countries is expected.

The possibility of an alarming depletion of whales, especially blue whales, still causes concern among scientists of many countries.

The meeting was approved at the 1954 commission meeting in Tokyo. It is one in a series approved at a Washington conference in 1946.

Active members of the commission, expected to attend at Moscow, are Australia, Brazil, Canada, Denmark, France, Netherlands, New Zealand, Norway, the Soviet Union, United Kingdom, United States, Union of South Africa, Panama, Mexico, Iceland, Japan and Sweden.

Observers from other countries having whale fisheries, particularly Argentina, Chile and Peru, will be welcomed. Officials also expressed hope that all countries with whaling fisheries, whether factories or shore stations, will eventually ratify or adhere to the International Whaling Convention.

The chief business at Moscow will be the review of statistics regarding the whale catch during the last season; whether revision of regulations is needed for future years; reports on what violations of regulations may have occurred; steps taken by individual countries to prevent violations, and routine, administrative problems.

The three-year term of Dr. Remington Kellogg of the United States as chairman of the commission expires this year. According to precedents, his probable successor would be the present vice chairman, Dr. Leinsch of the Netherlands.

ATKA MEN STUDY WINTER POLE STAY

Means for a U. S. Party to Work in Mid-Antarctic Is Being Planned on Ship

ABOARD U. S. S. ATKA, at Sea, March 3—A group of Americans is planning to try to endure the hardships of a six-month winter night at the South Pole.

The problems involved are great, the more so because no one is certain what conditions to expect. No man has been within 700 miles of the Pole during the winter.

How cold does it really become? Over Little America the upper air drops lower than 120 degrees below zero, Fahrenheit. On the Polar Plateau, where the elevation is 10,000 feet, the temperature may easily sink lower than 100 degrees below.

Does it become so cold that man cannot breathe the open air? Will mechanisms function? Will metals and plastics become brittle? Will the best polar garments be good enough?

It has been postulated that during the winter night the stratosphere, a rarified layer of atmosphere génerally five to eight miles up, settles onto the South Polar Plateau.

Is this air with its greater ozone content damaging to health?

Last but not least, how can such a station be set up?

These are some of the questions that have been discussed by observers from various civil government agencies and military services with this expedition.

When they return to Washington some of this expedition's observers will presumably join in the planning of the polar station. Because of the unknown conditions to be expected at the South Pole this task can be compared to that of drafting plans for a space platform.

A task of the International Geophysical Year, in the projects for which thirty-six nations have already joined, is to learn more about the space through which the earth is flying. The South Polar station is to be one among many observatories for that program.

Only one group of men has set foot at the South Pole and returned alive. On Dec. 17, 1911, five Norwegians led by Capt. Raold Amundsen reached the Pole. Just a month later, Capt. Robert F. Scott and four fellow Britons achieved the Pole, but they died on the return trip.

Planes from two of Rear Admiral Richard E. Byrd's expeditions have flown over the pole—Admiral Byrd's first polar flight was Nov. 29-30, 1929. All of these visits were in the Antarctic summer.

A small party of Russians has spent a winter drifting on pack ice at the North Pole; but conditions there are far different from those in the South. The North Pole is in the middle of an ocean that, even though covered by ice, tempers the climate. It is at sea level and within reach of permanent settlements in several directions. The South Pole is on a mountain-ringed plateau nearly two miles high and 800 miles from the ocean.

The two parties that reached the Pole did so by perilous ways up the long glaciers through the Queen Maud Range. Scott ascended Beardmore Glacier; Amundsen went through the range east of Beardmore. Air reconnaisance must still show whether tracked vehicles, such as the Weasel, can get onto the Plateau.

It may be necessary to establish and support the South Pole station entirely by air. The Atka has found places on the coast where bases could be established, especially at Kainan Bay, east of Ross Sea, in the Pacific Sector, and at newly found Atka Bay, east of Weddell Sea.

There techniques developed in the Arctic would be used to harden the snow-ice surface for truck highways and airfields.

But can an airstrip be prepared at the Pole? The Army is developing snow-camp action equipment that can be air-dropped as can many of the supplies for the polar station.

The work of the polar station will be to observe such phenomena as cosmic rays, the Aurora or Southern Lights and a similar manifestation called air glow. It will send balloons aloft to record the weather up to twenty miles, set off charges to determine the thickness of the ice cap, measure the force of gravity and send out radio impulses to probe the atmosphere.

The Pole is a key position in all these studies. Special instruments capable of working at extreme low temperature will be developed for the project. To cite one example, weather men say no liquid-in-glass thermometers are made, capable of readings under 90 degrees below zero.

ATKA COMPLETES SCOUTING MISSION

BUENOS AIRES, March 7—The United States Navy icebreaker Atka arrived here today, concluding her Antarctic mission exactly two months after leaving Wellington, N. Z.

The Atka had scouted almost half the coastline of Antarctica looking for bases for future exploration and research.

The ship received a warm greeting as she steamed up the brown waters of the River Plate. Tugs dipped the blue and white flag of Argentina as their crewmen waved a welcome.

All except eleven aboard the Atka were happy to see the sunbaked streets of Buenos Aires. The exceptions were the ship's captive penguins — seven Emperors and four Adelies.

The men of the Atka said farewell today to a shipmate killed in a helicopter crash during the Antarctic exploration. A few hours after the ship reached Buenos Aires, the body of Lieut. (j.g.) John P. Moore, U. S. N. R., was removed from the Atka to be flown to Lenoir, N. C., for burial. Boatswains' pipes called all hands to attention as the coffin was taken from the ship.

BUENOS AIRES, March 15—The United States Navy icebreaker Atka sailed from Buenos Aires today for Rio de Janeiro and Boston.

RIO DE JANEIRO, March 23—The United States Navy icebreaker Atka steamed out of Rio de Janeiro harbor this afternoon for Boston on the last homeward leg of its Antarctic reconnaissance cruise.

BOSTON, April 12—The Navy icebreaker Atka returned to Boston today from a 28,000-mile survey cruise to Antarctica. The vessel sailed from this port Dec. 1, 1954.

A Navy Yard band and 150 relatives were on the pier. The Atka returns with information concerning possible base sites for the United States part in the geophysical year of 1957-58, with thirty-eight nations of the world.

The first man ashore was Commander Glen Jacobsen, skipper of the Atka. He was greeted by Rear Admiral Richard E. Byrd, retired, of Boston.

Admiral Byrd has been named officer in charge of the next United States expedition to the South Pole, beginning next October. His group will set up sites for the geophysical year bases.

BRITISH ANTARCTIC PLANS: A British expedition is expected to attempt to cross the continent from Vahsel Bay (1) to McMurdo Sound (2), using surface vehicles.

BRITISH PLANNING TREK IN ANTARCTIC

Project for First Crossing of Continent Fits Into U. S. Program Now Starting

ABOARD U.S.S. ATKA, at Sea, Jan. 8—The approach of this Navy icebreaker to Antarctic waters marks the beginning of a major American effort to explore Antarctica. The British are working on plans that may be even more ambitious than the American ones.

The British intend to cross the Antarctic Continent by surface vehicle. Hitherto, this vast land has not been traversed either on land or in the air. In 1933 Lincoln Ellsworth and his Canadian pilot, Herbert Hollick-Kenyon, flew across a sector of the continent between Palmer Peninsula and Little America.

While the final plans of the British have not been announced, it is understood they hope to cut directly across the continent, passing the South Pole en route.

They would start at Vahsal Bay on Weddell Sea, at Lat. 77:50 degrees S., Long. 35 degrees W., and emerge at McMurdo Sound on the western side of the Ross Sea at Lat. 77:30 degrees S., Long. 165 degrees E., where Capt. Robert Scott and Sir Ernest Shackleton had their bases early in the century. The route would be across more than 1,750 miles of terrain, most of which has never been seen by man.

After passing the Pole, the caravan would continue on in a straight line, leaving to its right the mountains that fringe the Ross Shelf ice. Once abeam of Ferrar Glacier, the British party would turn east and follow that ice river down to McMurdo Sound.

The British hope that a New Zealand party headed by Sir Edmund Hillary, conqueror of Mount Everest, will set out from McMurdo Sound to lay bases along the route and meet the party from the Weddell Sea on the Polar Plateau. Reports that the Australians would join in the effort are unfounded, according to leaders of the Australian Antarctic operations. The British party would not go near the area of Australian activity.

Base-laying operations are projected by the British for the southern summer of 1955-1956—a year from now—and the trans-Antarctic trek would follow a year later. However, if plans cannot be matured by next year, the two phases of the operation would probably each be delayed a year. The target time for arrival at McMurdo Sound is February in whichever year is chosen.

Great obstacles face the British. The so-called Endless Mountains appear to reach across their intended path. This range, discovered by United States Navy planes in 1947, is a continuation of the Queen Maud Range and passes near the South Pole.

When glimpsed from the naval aircraft, these mountains appeared to go to heights of 15,000 feet. As far as the pilots could see, the range stretched onward into the heart of the Polar Plateau — an unexplored area as large as Europe.

The aerial photos taken by the United States in 1947 also indicate that rough and mountainous country runs deep into the continent behind the mountains of Victoria Land.

This also must be circumvented to arrive at MacMurdo Sound by the proposed route. A distinguished committee of British explorers and scientists is working on the plan and Sir Winston Churchill's Cabinet is said to have devoted two meetings to the subject without making a final decision.

The project will require extensive equipment and logistic support from ships and from long-range aircraft able to operate from snow. The technique used by the Australians, with dog-teams and vehicles operating together may be employed.

Likewise the British may live in compact trailers on runners that can be towed behind the tracked vehicles. The latter will probably be the weasel, sort of amphibious, tracked jeep. The vehicles would be fueled by air drop.

Midway in their journey, if United States plans are fulfilled, the British would visit the United States observatory at the South Pole. Plans are to set down this United States advanced station during the season of 1956-57 and operate it until early 1958. The suitability of Vahsel Bay as a base is still uncertain, unless the British have more information than has this expedition regarding that part of the Weddell Sea area.

Dr. Wilhelm Filchner, heading a German expedition, built in February, 1912, a large base on the shelf ice of Vahsel Bay, which he also called Duke Ernst Bay. The base seemed safe enough. The ice on which it rested, although afloat, was 600 feet thick and hitched to the mainland much like that at Little America.

Hardly was the building finished when disaster struck. The German explorers one night heard a sound described by one of them "as if hundreds of heavy guns were fired all at once." When they looked out, they found that their piece of shelf had broken loose and was floating seaward. A stretch of twenty miles of shelf ice had cracked off and broken up into icebergs Their parent ship, the Deutschland, was near-by and rescued them.

British Antarctic Team to Plumb Ice's Depths With Echo Devices

LONDON, Jan. 16—The British plan to fire a series of explosive charges from one side of Antarctica to the other in an attempt to plumb the depths of the polar icecap.

The explosive trail of 1,750 miles will be blazed by members of the Commonwealth transpolar expedition in 1956-57, it was disclosed tonight. Dr. Vivian E. Fuchs, a 47-year-old geologist and explorer, who probably will lead the expedition, made the announcement.

He explained that the explosives would be used in conjuntion with echo-sounders by a party that will travel with dog teams and mechanical vehicles from Vahsel Bay on the Weddell Sea to McMurdo Sound on the Ross Sea, at the other side of the pole.

He added that the paleocrystic, or ancient, ice was about 8,000 to 9,000 feet thick in places. It moves continually outward toward the coasts of the continent and probably was laid down about 500,000 years ago, he added.

Dr. Fuchs, who is at Cambridge University, said the expedition would cost at least £250,000 pounds ($700,000) and would be a Commonwealth venture. Full plans have been given to the Governments of the United Kingdom and the dominions, and although their response was not yet known, Dr. Fuchs said he felt it also would be necessary to get support from industry and perhaps to launch a public appeal.

The British hope to land supplies and men later this year at Vahsel Bay, on the eastern flank of the Palmer Peninsula below the tip of South America. To reach it they will have to sail through the uncharted Weddell Sea from a point approximately south of the South Sandwich Islands.

Simultaneous landings will be made at McMurdo Sound, in the New Zealand sector, at the other side of the pole, by a party that probably will be led by Sir Edmund Hillary, one of the conquerors of Mount Everest in 1953. Dr. Fuchs said he had sent an official telegram to Sir Edmund three days ago asking him to join the expedition. No reply has been received.

The Vahsel Bay team of Britons will establish a second base camp, called 300, at a point on the high polar icecap 300 miles from the Weddell Sea coast, along a direct line to the pole.

The depot, which will be supplied by two six-seater Beaver or Otter planes equipped with ice skids, will be occupied by three men during the winter of 1956. It will be the first meteorological station to be set up in the high Antarctic hinterland, Dr. Fuchs said.

The New Zealand party will climb the precipitous Ferrar glacier from McMurdo Sound and establish its base camp 300 miles inland, near Mount Albert Markham.

It is hoped that the British will make contact with the New Zealand party at the pole itself so that the combined force, on sledges and tracked vehicles, will retrace the way back to the New Zealand midway camp at Lat. 82 degrees S. and thence back to the Ferrar glacier and McMurdo Sound.

Allowing time for echo-sounding surveys and other observations, including mid-Antarctic meteorology, the journey will take about four months.

The men—ten or a dozen of the entire group of forty to fifty—will sleep in small pyramid tents with an outspreading skirt, said to be capable of withstanding winds of more than 100 miles an hour. They will live on hard rations of meat extract, butter, biscuits, porridge oats, chocolate and vitamin tablets, supplemented, if they are lucky, by seal meat and penguin eggs.

Like Roald Amundsen, Norwegian explorer, who first reached the South Pole in December, 1911—but unlike the current United States expedition—they will rely on dogs. Dr. Fuchs says he is "unashamedly a dog man."

The leader-designate of the expedition, Dr. Vivian Ernest Fuchs, is a Cambridge natural scientist famous for exploration in many remote parts of the world. Dr. Fuchs has been director of the Falkland Islands Dependencies Scientific Bureau since 1950. He was geologist with the Cambridge East Greenland Expedition in 1929. He led the Falkland Islands Dependencies survey in Antarctica from 1947 to 1950.

British Add Two Bases To Antarctic Holdings

LONDON, June 8—The British have surveyed and occupied two new Antarctic bases on the Palmer Peninsula below the southernmost tip of South America.

There are now eight British bases in the area. All of them are disputed either by Argentina or by Chile, each of which claims territorial rights of its own.

The new British bases are at Anvers Island in the South Shetland group of islands to the west of the Palmer Peninsula and at Horseshoe Island in Marguerite Bay of the Bellingshausen Sea. The latter is the most southerly point claimed by the British.

"Occupation of base camps" means that parties of four or five men employed by the Falkland Islands Dependencies survey team have erected wooden huts on the coast where they can be supplied with fuel and food during the short (November to February) Antarctic summer.

ANTARCTIC MOVES STIR NEW ZEALAND

Hillary, Everest Climber, May Head a Party to Assist U. S., British Groups

ABOARD U. S. S. ATKA, at Sea, Jan. 8—The stopover of this Antarctic-bound Navy icebreaker at Wellington, N. Z., just completed, prompted many New Zealanders to exclaim that their country was about to lose by default a region of 175,000 square miles or so that successive New Zealand Governments have claimed.

The region is a wedge of Antarctica, reaching to the South Pole, that is known to New Zealand as the Ross Dependency.

It lies directly south of New Zealand. It has an Administrator, appointed by the New Zealand Government, who is charged with taking "all steps necessary or expedient to safeguard and cause to be observed within the Dependency Her Majesty's rights and sovereignty." The Administrator's powers include those of a stipendiary magistrate and justice of the peace.

So far as can be determined not one of the Administrators who has "governed" the Ross Dependency since 1923 has ever set foot there.

With projects maturing for exploration of the Antarctic mainland by at least six other nations in the next two years, many New Zealanders feel the country's claim may be forfeited unless New Zealand joins in the South Polar activities. Occupation, or at least exploration, is usually regarded as a prerequisite to maintain a territorial claim.

The Ross Dependency claim was originally made by Britain on the basis of early British exploration in the area. The claim was delegated, in June, 1923, to New Zealand.

One of the most eager protagonists of New Zealand exploration in the Antarctic is Sir Edmund Hillary, the lanky Auckland beekeeper who reached the summit of Mount Everest.

Planners of the International Geophysical Year, 1957-58, have asked New Zealand to man a scientific observatory on Ross Island but the economy-minded Conservative Government in Wellington has not acted on the request.

The Ministry for External Affairs, nevertheless, tries to maintain the status of the New Zealand claim. Whenever a United States expedition goes to Little America, the ministry gently reminds Washington that that base lies in "New Zealand territory."

In at least one case there has been a mild protest—when the United States operated a post office at Little America. The base at Little America, resting on the Ross Shelf Ice, has been headquarters for four expeditions led by Rear Admiral Richard E. Byrd.

Before the current expedition, notes were exchanged between the two Governments. The United States advised New Zealand that the Atka would stop at Wellington. New Zealand replied, stating her eagerness to aid the expedition. However, the destination of the ship was pointedly described by the New Zealand Government as New Zealand territory.

Actually, New Zealand could not have been more hospitable, both on the official level and in the personal welcome extended to the men of the Atka during their week-long stay.

Churchill Reports on Plan

LONDON, Feb. 17—Sir Winston Churchill announced today that Britain was contributing £100,000 pounds ($280,000) to the cost of the proposed Commonwealth Expedition across Antarctica next year.

ANTARCTIC PLANS SET

New Zealand Allots $140,000 for Commonwealth Project

WELLINGTON, New Zealand, May 14 (Reuters)—This country will contribute $140,000 toward the cost of the planned commonwealth expedition to cross the South Pole in 1957-58.

T. L. MacDonald, Minister of External Affairs, announced the amount today and said a special committee, with headquarters here, would organize a terminal base in the McMurdo Sound area of the Ross Dependency, part of New Zealand territory.

ARGENTINA POSES ANTARCTIC ISSUE

Her Palmer Peninsula Claims Affect Current Exploring

ABOARD U. S. S. ATKA, at Sea, Jan. 12—With increasing determination, Argentina is establishing herself on the Palmer Peninsula of Antarctica. The area is claimed by Britain and Chile as well as Argentina.

Argentina has linked South America with the fringes of the Antarctic Continent by air and a large Argentine naval expedition is operating in Antarctic waters. It is made up of surface ships, planes and helicopters, with about 1,000 men participating.

The expedition includes the icebreaker General San Martin, recently built in Germany at the request of the Government of President Juan D. Perón. The icebreaker is said to be closely modeled after the Atka and others of this highly effective class of United States Navy craft.

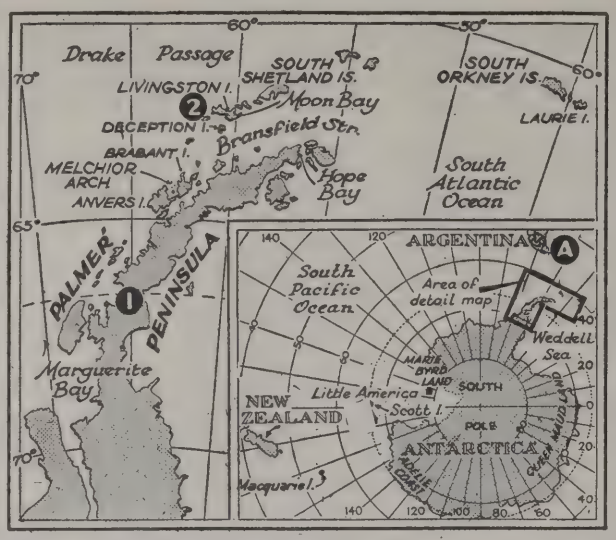
The tense situation in the region of the Palmer Peninsula is reflected on maps. Each of four interested parties calls the mainland area by a different name.

On United States charts it is Palmer Peninsula, in honor of Nathaniel B. Palmer, who, the United States contends, discovered it in or before 1820. The Argentines call it San Martin Land for the liberator of Argentina, Gen. José de San Martin, 1778-1850. To Chileans it is O'Higgins Land to perpetuate the name of their national hero, Bernardo O'Higgins. The British use Graham Land, in honor of Sir James R. G. Graham, First Lord of the Admiralty when British ships under Capt. John Briscoe explored the region in 1830-32.

Argentina has also changed other place names: Mobiloil Bay, so named by American explorers, shows on Argentine maps as Bahia Eva Perón. Bransfield Strait is Mar de la Flota.

Despite rival claims, the three actively interested powers—Britain, Chile and Argentina—last November renewed their annual agreement not to make displays of naval force south of Lat. 60.

According to an official report from the Argentine Naval Ministry intercontinental flights were pioneered in December, 1947, when a naval aircraft described as a Douglas GT-1 flew from Argentina to the Antarctic Continent and back without landing. Operating from a landing field at Santa Cruz, it flew across Drake Passage, the strait between South America and the South Shetland Islands of Antarctica, and circled over various Argentine bases before returning. It was in flight fifteen and a half hours.



PERON'S MOVES IN ANTARCTIC: Planes and ships have pushed the claims of Argentina (A on inset) on the Palmer Peninsula (1) with maneuvers in the area of Deception Island (2).

In 1952, two Argentine Catalina flying boats took off from the Magellan Strait area and landed at one of the Antarctic bases, probably at Deception Island, where such planes have subsequently been based.

According to the Argentine report airmail service between Antarctica and South America began right after that time. Presumably the "service" meant the carrying of mail on sporadic flights of Catalinas. It is 600 miles from the harbor at Deception Island to Magellan Strait. Deception Island is itself about fifty miles off the coast of Palmer Peninsula.

To date no plane has taken off from another continent and landed on Antarctica itself. This feat may be accomplished in the United States operations of the coming three years.

According to the latest available report, the current Argentine expedition includes transports, tankers and seagoing tugs as well as aircraft and the icebreaker. It is under the command of Capt. Alicio Odara and is relieving the various small Argentine garrisons around Palmer Peninsula.

Argentina is a late comer in Antarctic exploration, although, since 1904, she has maintained an observatory on Laurie Island in the South Orkney group. Until this past decade, this was regarded as the southernmost inhabited spot in the world. Argentina became active in Antarctica in 1942 when the naval transport Primero de Mayo scouted potential outposts among the islands.

According to the official report of last year's operation, Argentine naval detachments are in the Melchior Archipelago between Brabant and Anvers Islands; Hope Bay, on the tip of Palmer Peninsula, Deception Island, at Moon Bay on Livingston Island and at a point on the mainland on Bismarck Strait at Long. 62:52 West, Lat. 64:54 South.

There is also a meteorological and rescue station eight miles northeast of that base as well as an outpost at Marguerite Bay.

Without an icebreaker, last year's expedition was unable to reach the Marguerite Bay station. Twenty men and twenty dogs, who had been there two years, were relieved by helicopters that carried in supplies.

BUENOS AIRES, Jan. 17 (UP) —Argentina announced today that she had established a scientific base on the shores of the Weddell Sea, 800 miles from the South Pole.

The announcement, made by Rear Admiral Gaston Lestrade, Chief of Naval Operations, said the base was at Lat. 78 degrees S., Long. 39 degrees W. This makes it the southernmost of several bases established by Argentina in the Antarctic area in recent years.

Argentina reported landing an expedition on the shores of the Weddell Sea (cross).

Admiral Lestrade's announcement said the base had been named General Belgrano, in honor of Gen. Manuel Belgrano, hero of Argentina's War of Independence. The base was set up by an expedition aboard the icebreaker General San Martin.

Argentinians Escape Ice

BUENOS AIRES, Feb. 1 (Reuters)—The 12,000-ton Argentine icebreaker General San Martin barely escaped being trapped by ice after establishing an Antarctic base a fortnight ago, a Navy Ministry communiqué disclosed today.

The ship escaped through a channel three miles wide after helicopters had reported a pack of ice 300 square miles in area closing in on the Comandante Piedrabuena Bay base site, 800 miles from the South Pole.

BUENOS AIRES, March 7—

The Atka arrived here to find that Argentina had just established a base at a location close to where the ship operated in the Weddell Sea. According to an official announcement, the base was established Jan. 3 near Vahsel at Lat. 78 degrees S., Long. 39 degrees W.

The Argentines said their new German-built icebreaker General San Martin established the base and explored the Vahsel and Gould Bay areas.

Argentina says she has seven bases within the area she claims. The new one, named Base General Belgrado, is three miles inland on the Filcher Shelf ice, reducing the danger of its going to sea. It is the farthest south of any station in the Antarctic at present.

The location is one recommended by the organizers of the International Geophysical Year since it fills a gap in the network of projected Antarctic observatories. Argentina says she will observe cosmic rays and various other phenomena there.

At one point the British were talking of using this vicinity as a jumping-off place for their planned vehicle journed across the continent. The Argentine action may force them to revise their plans. Both Britain and Argentina claim the area, and this has repeatedly been a source of friction between the two countries.

The Argentine icebreaker is said to be modeled closely after the Atka. The General San Martin carries a helicopter, which was reported to have seen a gigantic iceberg about to bottle up the bay where the ship was unloading. Getting under way in a hurry, she had to cut a new path through the icepack to escape.

Walrus No Lightweight

A full-grown walrus in Arctic waters weighs more than a ton.

Dominion Unit Busy At Mawson Base

ABOARD U. S. S. ATKA, at Sea, Jan. 7—Australia is conducting the most extensive exploration in Antarctica.

Today, at almost the same time that this Navy icebreaker sailed from Wellington, a relief party of Australians was leaving Melbourne for a station already established on the Antarctic mainland.

Three Australians, operating from that station, have just reached what they describe as a new range of mountains about 200 miles inland. They estimate that its peaks, thrusting up through the polar icecap, reach altitudes of 6,000 to 8,000 feet and stretch in a line 150 miles long.

New methods of polar exploration have enabled the small party of Australians to travel long distances with no support from aircraft or surface parties. The trio is riding a gasoline-driven Weasel with a sled and dogteam in case of breakdown.

The Weasel, a small amphibious invasion vehicle propelled by tracks, is towing a cargo sled and a trailer. The latter is a novel device for polar work; it provides a mobile living quarters including kitchen. The United States has used such equipment in the North but not in Antarctica.

The Australian base at Mawson was established last February on MacRobertson Coast at about Long. 62 degrees 50 minutes East. It was named for the Australian explorer, Sir Douglas Mawson. The newly discovered mountains appear to be due south of this base.

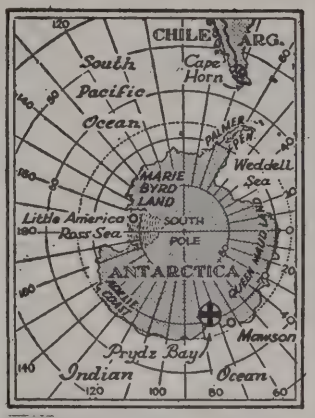
The base site was picked through study of photographs taken by seaplanes of the United States Navy during Operation Highjump. The latter was the most extensive exploratory effort to date in the Antarctic and took place during the 1946-47 season.

Except in the vicinity of Palmer Peninsula, below South America, where Britain, Chile and Argentina have sharply conflicting claims, Antarctic explorers of various nations are cooperating to a remarkable degree. The Australians in the Kista Dan pushed through the ice pack last season to the Vestfold Mountains, a little-known area of ice-free land in Long. 79 East.

There, by observations of the sun, they obtained an "astrofix" —a landmark requested by the United States Navy to enable its mapmakers to orient aerial photographs taken in 1947. The Australians hope this season to obtain another "astrofix" farther inland to complete the job.

The Australians also have cooperated closely with the French. Two of the Australian party's Weasels were purchased from the Expeditions Polaires Françaises.

Australian Party Lands On Antarctic Mainland



MELBOURNE, Australia, Feb. 10—A party of six men of the Australian Antarctic expedition's exploration ship Kista Dan, which left Melbourne for Antarctica Jan. 7, has made its first landing at the south end of Prydz Bay on the mainland.

The landing was made after the party had traveled fifty-three hours across a frozen sea. As the party returned to the ship ice floes began to break up, but the Kista Dan drove her weight against the ice to enable the men to rejoin her.

The point reached in Prydz Bay is Lat. 69 degrees 20 minutes S. The bay is choked by ice virtually the whole year. The Norwegian ship Torlyn under Capt. Klarius Mikkelsen penetrated the area in 1935.

The Kista Dan is now moving northwest on the way to Cape Mawson, where she will relieve ten men who have been stationed there a year.

The Kista Dan usually calls at the French outpost on Kerguelen Island, in the south of the Indian Ocean, where about forty Frenchmen are stationed.

The Australian operation is under the Ministry for External Affairs and has been headed since its outset by Phillip G. Law, a physicist of Melbourne University. The ship Kista Dan, which normally runs between Denmark and Greenland, was chartered by Australia.

After sailing today, the Kista Dan is to call first at Heard Island, an Australian outpost that is being closed down. She will pick up the last nine men stationed there plus six huts and some supplies to be moved to Mawson. The ship will then head for the Antarctic coast by the Vestfold Mountains to try to obtain the "astrofix" requested by the United States.

For several years the Australians have maintained their weather station on Heard Island in the smoking shadow of Big Ben a 9,000-foot volcano on the island. The savage conditions of the Antarctic claimed the lives of two members of the Australian team on Heard.

In May 1952, three men set out to walk along a gravelly beach at the foot of a glacial cliff. A large wave appeared suddenly and swept them into the icy water. One never reappeared. Two crawled back ashore. The clothes of one who tried to return across the glacier for help were frozen solid and he died en route. The other huddled on the beach until the sun was high, then barely made it to camp.

When the Kista Dan pulls away from Mawson, there should be nineteen prefabricated huts on the rocky shore, probably the largest Antarctic base to date, except that of Operation Highjump.

The largest hut will be for observing cosmic rays. Its size is necessary to hold the bulky apparatus that encloses 144 Geiger counters, each a meter long. The scientists on the Atka believe the apparatus will be the largest in the world.

The new huts will look like cigarette packs since they are faced with aluminum sheeting to prevent erosion. Winds off the Polar plateau blow for long periods at hurricane force and drive granular snow against the walls. This produces a sand-blasting effect that soon wears down a wooden surface.

The Australian and United States efforts in the coming three years will be focused on scientific observations in connection with the International Geophysical Year 1957-1958. The Australians will have two cosmic-ray observatories—at Mawson and at Macquarie Island. Macquarie was visited last month by the Kista Dan, which unloaded there a relief crew and thirty-five tons of supplies for the coming winter night.

The Kista Dan's Sailing

MELBOURNE, Australia, Jan. 7—The 1,239-ton exploration ship Kista Dan left Melbourne today for the Antarctic, carrying a relief party of fifteen men, twelve of whom have had previous experience with South Polar research expeditions. The ship's destination at Mawson, the Australian research station on the Antarctic mainland, is 4,000 miles away.

The Kista Dan goes first to Heard Island, 3,000 miles southwest of Melbourne, where she is due Jan. 22. The installations there will be taken on to Mawson and the Heard Island huts will be re-erected at that base.

From Heard Island, the ship will sail south and then westward along the Antarctic coast, mapping it as she goes, to reach Mawson Feb. 3.

After leaving the relief party at Mawson, the Kista Dan will return home with the pioneer party that went out a year ago. The ship is due back at Melbourne about March 26.

During the year, the terrain 110 miles eastward and 250 miles westward of Mawson has been examined, a small party is now returning to the base from reconnaissance 150 miles inland toward the South Pole.

Mineral Wealth Foreseen

MELBOURNE, Australia, Jan 8 (Reuters)—Australian explorers operating on the Antarctic icecap believe the impressive range of mountains they have discovered offers prospects of mineral wealth, it was announced here today.

Richard G. Casey, Australian Minister of External Affairs, said the party had radioed that the range reached a height of 10,000 feet above sea level and ran northwest and southeast for more than 100 miles.

The explorers of the range were Robert Dovers, who is now in charge at Australia's Mawson outpost in the Antarctic, and two associates, Robert Summers and Bruce Stinear. The range, along approximately Long. 60 to 63 East, due south of Mawson, was first sighted by photographic fliers of the United States 1946-47 expeditions.

U. N. Rule of Antarctica Is Discussed in Paris

PARIS, April 18—A proposal that the United Nations assume charge of Antarctica as a world territory was discussed today.

Representatives of the British Parliamentary Group for World Government came to Paris to make the suggestion to their French colleagues. They were Lord Boyd Orr, I. J. Pitman and Joseph Reeves. They conferred with French deputies and were received by the French Premier, Edgar Faure.

FRENCH OUTLINE TRIP TO ANTARCTIC IN '55

A French scientific expedition will set sail from Rouen in October for Antarctica, to prepare bases for France's part in the International Geophysical Year, 1957-58.

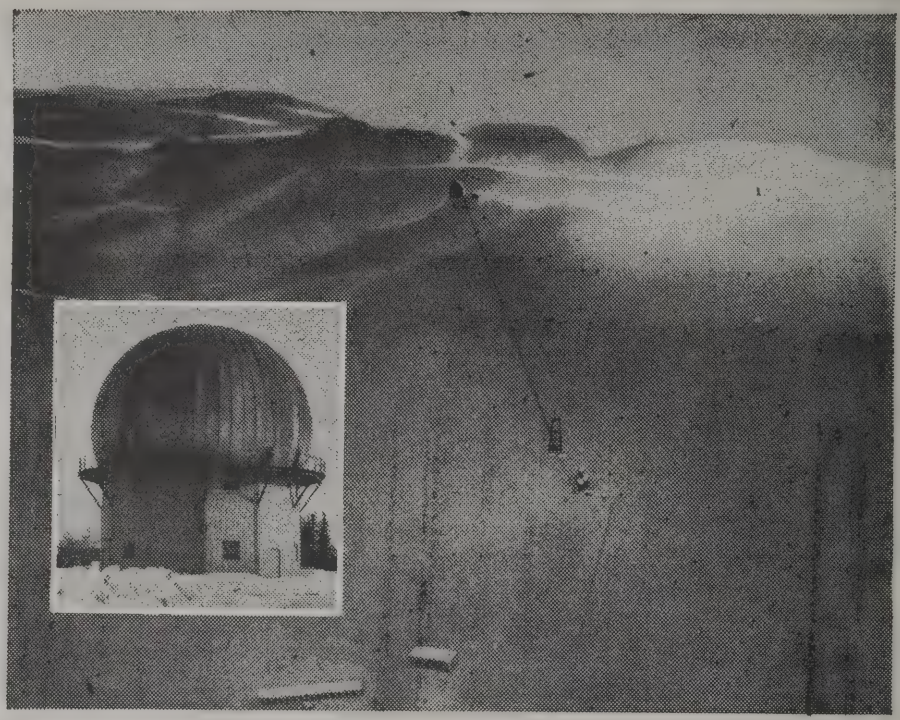
She will be one of several countries studying climatology and the physics of high atmosphere in the icy reaches around the South Pole.

The French expedition will be led by Paul Emile Victor. He disclosed its plans Feb. 9 in an interview at the Press and Information Division of the French Embassy, 972 Fifth Avenue.

The 48-year-old Parisian, who was a captain in the United States Air Force in World War II, has spent more than four years in the Arctic. He is director of French Polar expeditions.

Lone Radar Sentries Guard U. S. in Arctic Vigil

'Expendables' Ready to Warn Nation if Enemy Strikes



U. S. Air Force

The radome of a typical Aircraft Control and Warning Squadron, Tenth Air Division (Defense), is perched high on a mountain ridge on the Bering Sea. The radarmen travel by aerial tramway from base camp in the foreground to the dome. The inset shows one of the Alaskan radomes during brief Arctic summer, when cleared snow reveals rugged terrain.

ST. LAWRENCE ISLAND, Bering Sea, June 1—Continental and civil defense begins in a frozen ridge, with a kid from Missouri hunched over a radarscope. He is the sentry of the atomic age.

If you look at a polar projection of the world, you realize that he is considerably west of Honolulu, but only ten minutes from Soviet soil. Ten minutes for a Soviet type 39 bomber, or ten minutes for our B-47.

This Air Force G. I. and his buddies in his secret and desolate outpost somewhere on this big island in the Bering Sea describe themselves philosophically as "expendable." They are not combat troops. But they are far out in the No Man's Land of the "cold war." They are air men but have no aircraft. They are equipped with nothing but small arms and radar. Anyway you look at it, they are out on a limb.

But these men fight the battle of time. These unsung heroes, if diplomacy and reason fail, will give the folks back home a few hours' warning that atomic war is on the way. The fate of such places as New York, Boston, Chicago, Cleveland, Fort Worth, Los Angeles, Seattle, Ottawa, Pittsburgh, anybody's home town, might be decided by the alertness of these men.

The men here belong to the X Aircraft Control and Warning Squadron. It is one of several hidden in the cloud-shrouded ramparts of North America along the Bering Sea and Strait and the other coastal areas of Alaska.

On the emblems of one outfit are emblazoned the words, "Vigilantia Electronica." This tells their story in a nutshell.

From their radomes, crammed with electronic equipment, they could flash in a few seconds a "red" alert to Continental Air Defense Command Headquarters in Colorado Springs. A red alert means an invasion by enemy aircraft.

From Cape Prince of Wales on Alaska's Seward Peninsula to Kivak on the Soviet Chukchi Peninsula is only sixty miles. From Gambell on the western tip of this island to Naukan, also on the Siberian peninsula, is fifty miles.

From Gambell on clear nights Americans can see the rotating air beacons on busy Soviet bases. At distances of only fifty and sixty miles, Soviet aircraft raise "blips" on United States radarscopes. American aircraft do the same on the Soviet side.

Between the mainlands of the two continents there is only ice. But on the charts are the coinciding international boundary and date lines cleaving between Big Diomede Island (Russian) and Little Diomede (American). There is only three miles of ice between these islands.

It is assumed that Russia has in the Chukchi Peninsula a counterpart of Alaska—an outermost bastion dotted with air bases and troop installations Vast numbers of American aircraft and thousands of tons of arms and equipment were sent there by way of Nome and other Alaskan bases during World War II.

Despite the proximity of the Soviet and American territories, there have been no serious and untoward incidents such as those in the other frontiers with the Communist world—no United States planes shot down for allegedly violating Communist territory, no incursions of Soviet aircraft.

Up here the masters of the Kremlin cannot use satellites to create incidents. Here it would be Russians against Americans. If anything started between them, it would be for keeps.

Nevertheless, swift jet interceptors "scramble" every day in Alaska and its outposts. The thin golden line scanning around Squadron X's radarscope picks up the blip of an unidentified plane and a warning flashes into the control center of one of the two air divisions that guard Alaska and fly "top cover for America."

On the inclined floor of a former bowling alley, two air men wearing tennis shoes and trailing long wires from earphones move around on a huge map of Alaska.

They set up lettered and number blocks—"raid stands"—showing the location and course of every single aircraft except bush planes in the air over and around the Alaska territory. Here the direction of the unidentified plane is seen in relation to the terrain and the key targets.

The commander flicks a switch and utters one word: "Scramble." Within two minutes F-89D Northrop Scorpions are streaking into the sky to look things over.

It may be only another commercial plane coming over the Great Circle route from the Orient. Every lane from that direction is checked and double-checked. Or it may be a friendly plane that has gone off course.

Or some day it could be part of a fleet of 500 or more bombers, familiar to American air men by incessant study of Soviet identification charts. Then the "red" alert would flash into Colorado Springs and several other key places in the United States and Canada.

That is how it would be if the United States were attacked, as military leaders envision it. There would be a massive attack from several directions by hundreds of bombers striking simultaneously at United States air bases and heading for many of the major industrial cities with atomic and hydrogen bombs.

Some of these bombers are expected to get through to bring death and destruction to United States cities. Even President Eisenhower has said that there is no such thing as absolute defense.

And once the attackers got through, the home front would be at war. The great problems of Civil Defense instantly would become real.

The United States would be

fortunate, however, if Squadron X flashed the warning. That would mean that a great industrial target such as Detroit might get as much as five hours and some minutes of warning.

But military leaders in Washington and Alaska do not underestimate the enemy. If he decides to strike, he would strive for surprise. He would try to go undetected as long as possible.

The foe might come over the top of the world, by-passing strong Alaska at least in the initial stages. He might try to sneak by Point Barrow and Barter Island in the Arctic Ocean and slash down through Central Canada.

If he succeeded in this, he might go undiscovered until the radomes of the Mid-Canada radar line, or McGill Fence, picked him up. That would mean that Detroit and many other American cities would get only two and a half or three hours' warning.

The greatest gap in continental defense is no secret. It is the vast expanse of wild terrain across the top of North America, from the eastern boundary of Alaska to Greenland. The task of filling the gap with the Distant Early Warning (D. E. W.) line has just been started. It will not be completed for two years.

The Eastern approaches to the continent now are screened by Air Force bases on Greenland as well as by picket ships at sea and radar airplanes that extend the defense line as far east as the Azores and along the nation's coasts in a continual patrol.

Continental defense is a serious business in this vast and complex territory. There the airplane is the common transportation. There are other, smaller gaps in the defenses, in the interior as well as along the coasts. Work goes on constantly to plug them.

New aircraft control and warning squadrons are being established in remote places. Some now in operation cannot be reached by automobile, ship or railroad. They are supplied the year around by C-47 aircraft. Sometimes the weather is so bad that the supplies must be dropped by parachute.

The Army is building Nike guided-missile emplacements at key places. Fleets of military and commercial aircraft under an agreement with Canada are rushing equipment northward for the D. E. W. line.

Later this month, as the ice breaks up, thirty-two ships of the so-called Mona Lisa Operation will be making amphibious landings of tons of supplies along beaches with tricky tides and rough surf and cluttered with jagged volcanic rock and ice floes.

For Squadron X a ship gets through only once a year with the bulk of its supplies. It must rely on cargo planes for other needs. Some heavy equipment for the D. E. W. line also will be brought in by ships.

Here continental defense is almost everybody's business, too. Alaska is somewhat like a theatre of war, calm but alert.

The chain of service extends from keen-eyed Eskimos, hunting guides, housewives, missionaries and other types of volunteers up to the joint Army, Navy and Air Force units. These are under Lieut. Gen. Joseph Atkinson, the theatre commander. He is an Air Force officer.

Radar is not perfect in its coverage. There is not enough of it to go around in a vast territory. Hence, about 1,000 volunteers blanket Alaska with the 200 posts of the "Sadie Hawkins" network of the Ground Observer Corps.

Between the remote radar sites and watchful volunteers in every village, no unidentified plane bigger than a bush aircraft goes unreported.

Military leaders believe they could cope with any attack by Russia against Alaska itself. This bastion for Alaskan and continental defense is being run, however, like some other American military establishments, on a "calculated risk" basis.

Under the Alaska theatre commander is the Air Command, headed by Maj. Gen George R. Acheson. This consists of two air divisions. The Tenth is based at Elmendorf Air Force Base, under Col. Dolf E. Muehleisen. The Eleventh is based at Ladd Air Force Base, under Brig. Gen. T. Alan Bennett.

These divisions are capable of all-weather operations, although there is one squadron of day fighter-bombers, Sabre Jets. The number of wings and squadrons in each division is a military secret. It can be said that they are under strength.

The United States Army in Alaska under Maj. Gen. James F. Collins has less than a division here. Two regimental combat teams are within Alaska. A third is at Fort Lewis, Wash.

The Navy Alaskan Sea Frontier has operating bases on Kodiak Island on the south coast and at Adak in the Aleutian chain.

These are the sinews of strength in the Alaska territory. General Atkinson expects his forces to give a good account of themselves when and if the wrong kind of "blips" turn up in the radome on a distant mountain top.

U. S. Woman Explorer Flies Over North Pole

Louise A. Boyd

• BODOE, Norway, June 17 (UP)—Louise A. Boyd, 67-year-old San Rafael, Calif., explorer, returned here tonight from a successful flight over the North Pole abroad a chartered plane.

The task of the expedition was to photograph the area around the pole and the Arctic sea.

In the chartered DC-4 with her was Lieut. Gen. Finn Lambrechts, chief of the Norwegian Air Force. He acted as navigator out of gratitude for her efforts in the search of explorer Roald Amundsen when he disappeared in the Arctic in 1928.

Thor Solberg, a veteran Arctic pilot and old friend, flew the four-engine plane. The flight took eight hours.

SUBMARINE HELD ARCTIC WAR KEY

Wilkins Pictures U. S. Atomic Craft Moving Under Ice to Meet Any Soviet Attack

ANCHORAGE, Alaska, April 2 (Reuters)—A picture of atomic powered submarines traveling to the attack under the frozen surface of the Arctic seas has been offered here.

The prospect was held forth by Sir George Hubert Wilkins, famed Australian aviator and polar explorer. He declared that it might be the West's answer to any Soviet aggression.

He is in the far north testing Arctic clothing for the military authorities. Before coming to Alaska he attended the launching of the first atomic-powered submarine, the Nautilus, at New London, Conn.

He is convinced that such craft could play a decisive role in any northern war operations of the future.

The Wilkins exploits include many Arctic and Antarctic expeditions using ships and aircraft and one aboard a submarine. His first trip to the polar regions was as a member of the Stefansson Arctic expedition in 1913.

In 1931 he commanded the first underseas exploration of the Arctic. The exploration was in the area north of West Spitsbergen. An earlier namesake of the Nautilus was used.

"After many years of war, people are finally starting to believe me when I say the Arctic is important in world affairs," he said in an interview here this week.

He emphasized that as early as 1919 he and the late Maj. Gen. William (Billy) Mitchell were lone proponents of the idea that the Arctic would some day be a bastion of defense against Russia.

Concerning the submarine factor, he declared that he became convinced that submarines could play a decisive role in Arctic defense or offense even before his underseas exploration of the polar seas. In 1927, as head of the Detroit Arctic Expedition, he made many flights over the Arctic pack ice from the northern coast of Alaska.

On March 29 of that year he and Ben Eielson, pioneer Alaskan bush pilot, took off from Point Barrow on their first long trip over the Arctic Ocean. It reached 30 degrees below zero as they flew to the northwest. When they were more than 500 miles from Alaska's northern shores their engine began to miss.

Eielson brought the crippled plane down safely on the ice and proved something that Sir George long had contended, that wheeled aircraft could land safely on the polar ice.

While the bush pilot was repairing the craft Sir George chopped holes in the ice and detonated charges to take echo soundings. He found that the Arctic Ocean was at that point more than three miles deep. Until then popular opinion was that the water in the polar seas was 1,500 feet or less deep.

Sir George asserted in the interview that the great depth of the polar seas, combined with the unusually clear quality of the water, had made him certain that submarine operations there were possible.

He alleged that atom-powered submarines could stay submerged indefinitely.

Aircraft from Alaska and other bases, he noted, would have to smash through a heavy Russian network of aerial defenses in the event of war. But, he added, "submarines could move without much protection, could surface, launch their missiles and disappear as unobtrusively as they came."

Strong Tides a Blessing

Strong tides prevent the freezing of Hudson Strait, the entrance to Hudson Bay, despite low arctic temperatures.

SOVIET DRIFT FLOE NEARS GREENLAND

Pravda Places Arctic Study Post 180 Miles Offshore— Airborne Group Cited

April 10

Pravda has revealed that a Soviet Arctic expedition is operating at a point 180 miles from Greenland.

It is also 300 miles from Canada's Ellesmere Island and 750 miles from the large United States air base at Thule on Greenland. The expedition is 1,075 miles from the nearest point of the Soviet mainland.

Another Soviet Arctic study group is operating at a point 690 miles from Point Barrow, Alaska, and 775 miles from the Soviet mainland.

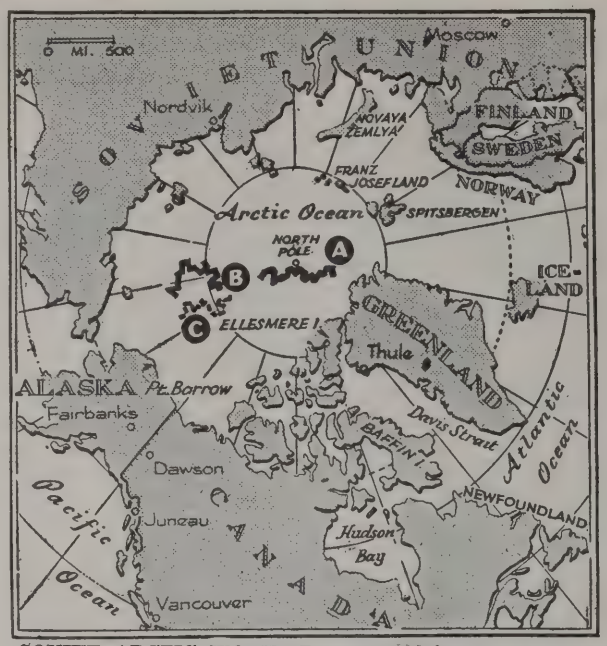
In addition to the two ice floes, Pravda said, an airborne study group is operating in the central Arctic north of Franz-Josef Land and in the area of the ice floe station off Greenland. The airborne group is expected to continue to carry out hydrologic observations until the beginning of June, the newspaper said.

These revelations were made by Pravda, the Soviet Communist newspaper, in an article surveying the results of last year's Arctic research by Soviet parties on ice floes, the North Pole 3 and North Pole 4 stations. The article was written by V. Burkhanov, head of the Northern Sea Route Administration, which is in charge of maritime traffic through the Arctic seas and supervises the Soviet network of Arctic study posts.

The North Pole 3 ice floe, which has approached close to Greenland and Canada, is said by Pravda to be at Lat. 86 degrees 3 minutes N. Long. 34 degees 28 minutes W. The ice floe has drifted more than 1,200 miles from its starting point a year ago at Lat. 86 degrees N. Long. 175 degrees 45 minutes W., though the straight-line distance between beginning and end points is less than 500 miles.

The North Pole 4 floe, northwest of Alaska, is at Lat. 80 degrees 26 minutes N. Long. 173 degrees 20 minutes W. This ice floe has drifted about 1,500 miles in a clockwise direction since the scientific party landed on it a year ago tt Lat. 75 degrees 48 minutes N. Long. 178 degrees 25 minutes W., though the straight-line distance separating the initial and present points is little more than 300 miles.

Pravda's article also revealed the route of a scientific party, North Pole2, which drifted on the Arctic seas from April 2, 1950, to April 9, 1951, on a path roughly parallel to and somewhat East of that of North Pole 4. The work of the North Pole 2 group was kept secret at the time, and this expedition's activity was announced by the Soviet Government only last year.



SOVIET ARCTIC WORK: Russian scientific expeditions (A and B) are drifting across the Arctic, according to Pravda. Solid lines indicate their paths, with direction of drift running from left to right. Broken line (C) is path of an earlier expedition. This map was adapted from Pravda.

The Pravda article in showing the route of North Pole 3 confirms a Canadian announcement in February that Soviet scientists had been working in an area claimed by Canada. The Canadian Government claims all of the Arctic territory between the Canadian Arctic islands and the North Pole, though this and similar claims by other nations are still matters of international controversy.

According to Pravda, the Soviet scientists are engaged in exploration and the collection of important meteorological, oceanographic, biological and other data. The information gathered is said to be so valuable for air and sea navigation that the Soviet Government proposes to maintain permanently at least two scientific parties on floating ice floes in the Arctic seas.

Meteorological data gathered hourly and daily on the floes are transmitted to the Soviet Central Forecasting Institute for use in Soviet weather maps. These data are said to be particularly valuable for the prediction of low-pressure systems originating in the Arctic seas and then heading south to affect the operations of the Northern Sea Route.

The expeditions are said to have found that the Arctic sea bottoms are rich in bacteria and yeast fungi. Both are found at depths exceeding 10,000 feet.

Pravda indicates that the North Pole 3 station will probably be abandoned soon as it is drifting toward the pack ice off northern Greenland and Ellesmere Island. A new station, North Pole 5, is to be set up instead.

The Soviet account indicates that the scientists on the ice floes have undergone harrowing experiences in carrying out their work. The ice under them has broken frequently, fissures sometimes appearing even under individual buildings.

In the dark of the Arctic night, with temperatures of 50 degrees Fahrenheit below zero, camp had to be moved four times last winter. During the summer so much ice melted that the ice floe stations threatened to disappear, while the camps were buffeted by waves from the open sea surrounding the camp sites.

Soviet authorities have concluded that the conditions at these stations are so rigorous that the personnel must be relieved at the end of at most one year's service. The staff of North Pole 4 has recently been relieved by a fresh group.

An expedition the Soviet Government now calls North Pole 1 was conducted on an ice floe in 1937 and 1938 by a party under Dr. Otto Schmidt and Ivan Papanin. That expedition floated south from the North Pole until taken off near the West Greenland coast.

Arctic Expert Notes Soviet Advantages

By the Associated Press

Washington

Because Russians are more accustomed to cold climates, the Soviet Union may have some advantage over the United States in Arctic military operations, Col. Bernt Balchen says.

On the other hand, the Arctic expert said in a copyrighted interview with the magazine U. S. News and World Report, warm ocean currents extend farther north in the western hemisphere. This gives the United States and Canada more chance for northern bases open to navigation for longer parts of the season.

Whether the Soviets have surpassed this country in technical development of cold-weather equipment, he said, "is a question that we can just guess at."

ICE ISLAND STUDIES DUE

WASHINGTON, April 10—The United States Air Force has remanned its weather and scientific station on T-3 (Fletcher's Island) in the Arctic.

The thirty-six-square-mile ice island has begun to move again and because of this is again of value as a weather-reporting station.

A series of Air Force parties lived on the island from 1952 until last May. In that time it drifted from north of Alaska to a point north of Ellesmere Island, the northernmost part of Canada.

WASHINGTON, March 25 (AP) —The Air Force's Research and Development Command said today the scientists would remain until Sept. 1 for a series of studies.

The big ice cube, designated T3, was large enough to support a 4,000-foot runway at one time. It has drifted high up in the Arctic Ocean, and at one point came within 150 miles of the North Pole in its rambling course.

The island had moved to a point near the tip of Ellesmere Island by last spring and May 14 a group of weather observers left the island. The Air Force said at that time the island had floated too close to a fixed weather station ashore to be of further use for that purpose.

Soviet Ice Floe Evacuated

Soviet Arctic scientists have evacuated North Pole 3, one of their ice-floe study posts, Pravda, the Soviet Communist party newspaper, has announced. Evacuation of the floe was completed Wednesday, April 20. Since its establishment April 9, 1954, the ice floe had traveled more than 1,200 miles in 376 days and had approached within 180 miles of the north coast of Greenland.

Alaska Awaits Geophysical Year

By the United Press.

FAIRBANKS, Jan. 7.—All of Alaska will be the scene of increased scientific activity during the next "geophysical year," 1957-58, according to Dr. C. T. Elvey, director of the University of Alaska Geophysical Institute.

Back in 1882-83, scientists started the first "polar year." As part of the program an expedition was sent to Point Barrow. It was decided to have a polar year every 50 years.

The second such study was in 1932-33 at which time Fairbanks became a major center for the work. Due to rapid advances made in science, it was decided to step up the interval 25 years, widen the studies to embrace many fields of science and rename the period "geophysical year."

Dr. Sydney Chapman, visiting professor of geophysics at the University of Alaska, advisory scientific directory for the institute, is president of the special committee for the next geophysical year. The committee is composed of the representatives of 35 nations, including the U.S.S.R.

The plan is to coordinate all programs and areas.

The world-wide project will cost around $100,000,000, with the United States being asked to put up $32,000,000.

CARGO RECORD SET FOR ARCTIC AIRLIFT

RESOLUTE BAY, Northwest Territories, Canada, April 16—The Royal Canadian Air Force completed today a record airlift to the five joint United States-Canadian outposts on the Queen Elizabeth II Island. Flying around the clock in the continuous daylight of these latitudes, three C-119's (Flying Boxcars) completed eighty trips in eleven days.

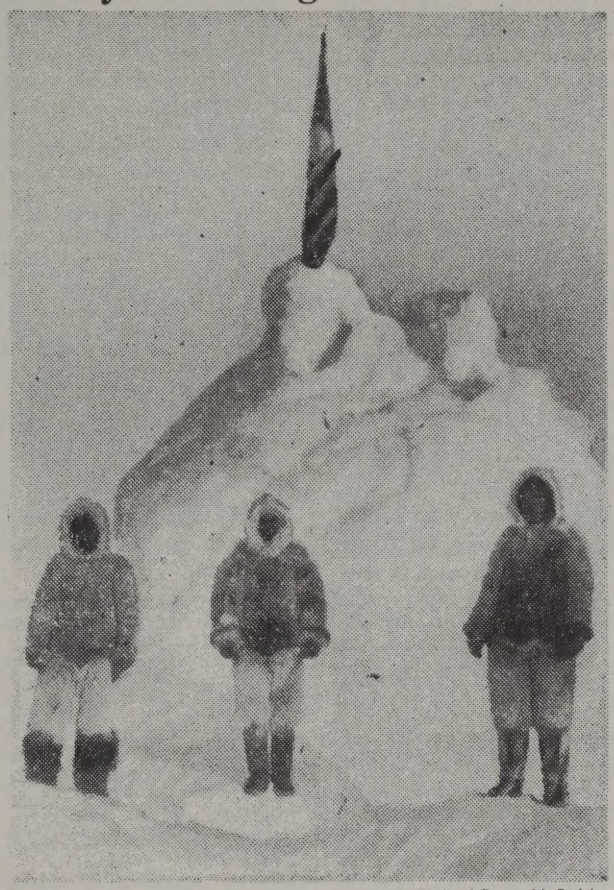
The planes delivered 816,000 pounds of supplies and forty-four men. The passengers were station personnel and scientists.

The airlift, largest ever performed in the Arctic, is based at Resolute Bay, on Cornwallis Island, 550 miles above the Arctic Circle. It supplies Mould Bay on Prince Patrick Island, Isachsen on Ellef Ringnes Island, and Eureka and Alert in Ellesmere Island, as well as Resolute.

The bulk of the cargo went to Mould Bay and Isachsen, which are accessible only by air. Eureka is reached by ships during the summer and Alert has been accessible by sea in some years. Eureka and Alert receive some of their supplies by airlift from the United States Air Force base at Thule, Greenland.

Most of the cargo was brought to Resolute last summer by a convoy of freighters headed by an icebreaker. It includes two heavy tractors and two large fuel storage tanks that taxed the ingenuity of the ground crew. Eventually a method of loading and unloading them was devised.

Peary Arctic Flag to Be Enshrined



National Geographic Society

This is a photo of the American flag Mrs. Robert E. Peary made and which her husband placed at North Pole. Matthew Henson, Maryland-born Negro, is flanked by two Eskimos.

WASHINGTON, April 23 (UP)—The Peary family's most cherished possession, the American flag carried by Rear Admiral Robert E. Peary when he discovered the North Pole, will be enshrined permanently here May 6.

It will repose among other priceless gifts and exhibits in the National Geographic Society's Explorers Hall after ceremonies to be attended by Government and diplomatic officials, the military services, and scientific and geographic organizations.

Admiral Peary reached the pole April 6, 1909, but his claim was not recognized for some time. He died in 1920. The taffeta flag was made by his wife who has now presented it to National Geographic. But Mrs. Peary, who is 91 years old and lives in Portland, Me., will be unable to attend the presentation ceremonies.

Accepting a special gold medal for her will be her daughter, Mrs. Marie Ahnighito Peary Stafford, a noted explorer in her own right.

Admiral Peary guarded the flag with his life. During the four harrowing years he spent reaching the pole he kept it wrapped around his body to be sure it would not be lost in treacherous ice.

He deposited fragments of the flag at memorable spots in his journey. Most of these were found later by other polar expeditions. The sixth and last cutting was left at the pole itself.

CANADIANS DEBATE WILDLIFE BALANCE

MONTREAL, March 13—Preservation of all species of wildlife is the theme of a series of meetings being held here.

More than 400 wildlife and conservation experts have gathered in Montreal to try to agree on methods to keep North America's fauna, and the flora upon which it depends, in healthy balance.

Many of them, motivated primarily as hunters and fishermen, want to see this continent's game and fish protected so that the pleasure they now derive with their rod and gun will not be denied their sons and grandsons.

For others, however, the conservation of wildlife is a matter of basic necessity. This is especially true of the Canadian officials attending the meeting. About 12,000 Eskimos and Indians of this country's vast Northland depend for their food and livelihood upon the caribou, the moose, the seal and the many fur-bearing animals.

In general the recent trend has gone against the wild creatures. With the number of humans inhabiting the remote wilds of North America continuing to increase as a result of modern health measures, and the means of hunting and trapping growing in efficiency, the revenue-producing animals, such as mink and white fox, and subsistence-producing animals, such as caribou, have begun to decline sharply.

MUSK OX EXPERIMENT

Domestication for Farm Use Being Tried in Vermont

Domestication of the musk ox for farm use is being tested near Huntington Center, Vt., the National Geographic Society reports. Three calves, two females and a bull, were brought from Canada's Northwest Territories.

A mature ox will tip the scales at 800 pounds and provide excellent meat. The wool is even more highly prized. One ox may yield several times as much wool—light, fine, soft and nonshrinkable—as a sheep.

Ice-Breaker Group

OTTAWA, March 28 (CP).—The Navy's new Arctic patrol vessel Labrador will head an icebreaker escort group breaking sea trails for the supply ships of the new Distant Early Warning Radar Line in the Canadian Arctic this summer.

Navy headquarters announced the Labrador would be senior ship of a four-vessel escort and survey group. They will scout beaches and possible landing sites in advance of the start of construction along Baffin Island early in July.

Matt Henson, Who Reached Pole With Peary in 1909, Dies at 88

Matthew Alexander Henson, the man Admiral Robert E. Peary termed indispensable in his final five-day dash to the North Pole, died here March 9 at St. Clare's Hospital. The 88-year-old explorer, the only American to accompany Admiral Peary to the Pole, succumbed of a cerebral hemorrhage.

First reports indicated that Admiral Peary had been accompanied only by Eskimo helpers. When the party reached Labrador Mr. Henson's achievement also was recorded.

Mr. Henson, who had been hired by Admiral Peary as a valet, accompanied the explorer on all of his expeditions over a twenty-two-year period. In interviews after the completion of the mission on April 7, 1909, Admiral Peary praised him highly as a sledge-maker, dog-sled driver and expedition companion. He said:

"This position I have given him primarily because of his adaptability and fitness for the work; secondly, on account of his loyalty. He has shared all the physical hardships of my Arctic work."

The commander also said he could not have made the dash without Mr. Henson.

Mr. Henson kept a diary of the trip. He described the arrival of the party at the pole "just before noon on April 6. He explained that because of weather conditions, readings were not taken until the next day when the American flag was planted at the pole shortly after noon. Thus it was that Mr. Henson found himself "sleeping one night at the North Pole."

Of the flag raising, he reported:

"The commander merely said in English: 'We will plant the Stars and Stripes at the North Pole'—and the Stars and Stripes were planted. Speaking in the Eskimo language, I then proposed three cheers, which were heartily given."

He said that he had coached the natives before-hand in this particular art. Of his own feelings, he wrote in his book, "The Negro at the North Pole:"

"As I stood there at the top of the world and thought of the hundreds of men who had lost their lives in the effort to reach it, I felt profoundly grateful that I, as the personal attendant of the commander, had the honor of representing my race in the historic achievement."

When the expedition ended, Mr. Henson was in good health, but had lost twenty pounds during the sixty-eight-day march and return.

After his adventures, he seemed almost relieved to settle down in an office job. By an executive order from President Taft in 1913, he was appointed a clerk of the New York Custom House, a position he held until his retirement on pension in 1936.

Matthew A. Henson in 1950, at 83, when he was honored at Pentagon for exploits.

Later, he lectured on, or just chatted about, the expedition.

Just as reports of his presence on the final dash came late, the more tangible honors, exclusive of his Civil Service appointment, eluded the man for many years. Many bills were presented in Congress on his behalf. They specified a pension and a medal, pointing out that Admiral Peary had received a $5,500 pension and a medal.

On Jan. 28, 1944, Mr. Henson received a medal—one authorized by Congress for all members of the Peary Expedition of 1908-09. In 1948, at the age of 81, he received the gold medal of the Geographical Society of Chicago and he was made an honorary member of the Explorers Club in New York. The club had honored him in 1934 as a smoker, where he spoke on the expedition.

His biography, "Dark Companion," was published in 1947 by Bradley Robinson. Last April, on the anniversary of the expedition, Mr. Henson and his wife met President Eisenhower in Washington.

Even before he met Admiral Peary in a haberdashery store in Washington, when he was 18 years old, he had charted a life of adventure and travel for himself. He had gone to sea as a cabin boy and had made a voyage to China before he was hired by the admiral as a valet.

Mr. Henson had made his first expedition on the Admiral's second trip to Nicaragua in 1887.

He was born in Charles County, Md., Aug. 8, 1866. His mother died when he was 6 and he lived with an uncle in Washington for several years. He received his formal education—six years at the N Street School—during this time.

Surviving are his widow, Lucy, of 246 West 150th Street, and a sister, Mrs. Eliza Carter of Washington.

FRANK STOKES, 96, PAINTER OF ARCTIC

Artist With Peary in North Polar Region, Nordenskjold in the Antarctic, Is Dead

Frank Wilbert Stokes, one of America's oldest artists, died late Feb. 12 at St. Vincent's Hospital after a brief illness. He was best known for the scenes he had painted of the Arctic and Antarctic while on polar expeditions with Admiral Robert E. Peary and other explorers.

Mr. Stokes, whose age was 96, had been at work on sketches virtually up to the time he entered the hospital Thursday.

The artist accompanied Admiral Peary on a trip to the Arctic region in 1892 and again in 1893. On these trips he painted scenes of the aurora borealis, icebergs, animals, and Eskimo life.

Some of these are included in a group of 180 of his paintings of the polar regions on exhibition at the Smithsonian Institution.

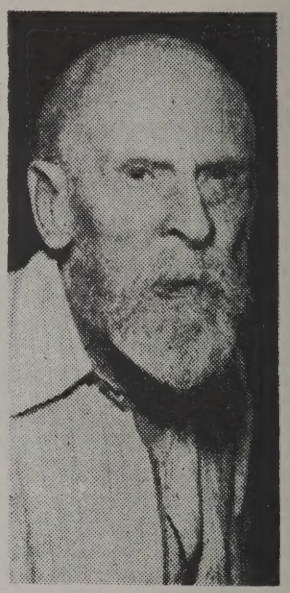
Mr. Stokes painted the great frozen wasteland of the Antarctic while on an expedition in 1901-02 with Dr. Otto Nordenskjold. In 1926 he went with Roald Amundsen, an old friend, on his dirigible flight to the Arctic. He was a member of the Explorers Club of New York.

Mr. Amundsen once said that his paintings of the North Polar region contained "dazzling and beautiful effects," while those of the South Polar region depicted more of the "gloomy sinister and tragic."

In the bitter, frozen wastes of the polar regions Mr. Stokes discovered an endless color range and inspiration for painting that lasted his lifetime. In 1909 he completed a series of murals on the Arctic night and day and on aspects of the life of the Smith Sound Eskimo for the American Museum of Natural History.

His easel paintings bore such titles as "Blueberg," "Aurora Australis," "The Great Inland Ice" and "The Draped and Spiral Form of Aurora."

Mr. Stokes was born in Nashville, Tenn. At an early age he moved with his family to Philadelphia. There he attended public schools and Rugby Academy. Later he studied at the Pennsylvania Academy of Fine Arts. In 1882 he went to Paris, where he continued his studies for several years.



Frank Wilbert Stokes

ESKIMO ON '09 TREK WITH PEARY IS DEAD

COPENHAGEN, Denmark, May 9 (AP)—The Greenland Department of the Danish Government announced today the death of Ootah, an Eskimo who accompanied Rear Admiral Robert E. Peary to the North Pole in 1909.

Ootah's name also has been spelled "Odaq." His exact age is unknown, but he generally was believed to be about 80 years old. The Greenland Department said he died in New Thule, not far from the United States air base, which is built in an area where he used to hunt.

Ootah was a member of the Explorers Club of New York. A year ago he declined an invitation to the club's annual dinner because of ill health.

Ootah was the last survivor of the six men who reached the North Pole on April 6, 1909. The group, led by Admiral Peary, included Matthew Henson and four Eskimos.

The Polar Times

Published June and December by the AMERICAN POLAR SOCIETY, Care August Howard, Secretary, 98-20 62nd Drive (Apt. 7H), Rego Park 74, New York.

AUGUST HOWARD, Editor

The American Polar Society was founded Nov. 29, 1934, to band together all persons interested in polar exploration. Membership dues are one dollar a year, which entitles members to receive THE POLAR TIMES twice a year.

Back issues are 50 cents each.

R. J. WALRATH, 73, MAP MAKER, DIES

Times Cartographer Noted for Work on Polar Trips and War Campaigns

NEW BRUNSWICK, N. J., June 7—Russell J. Walrath, veteran map maker for The New York Times, died today in Middlesex General Hospital here a few hours after he had suffered a cerebral hemorrhage in his Metchuen home. Mr. Walrath was 73 years old.

One of the nation's best-known cartographers, Mr. Walrath had been with The Times for more than thirty years. He was noted for his maps of Arctic and Antarctic explorations and of World War II campaigns. One of his many maps, published in The Times on June 30, 1929, was a detailed five-column map of Little America, headquarters of the Byrd Antarctic expedition of that year.

Mr. Walrath had drawn it from complicated and highly technical data transmitted in code by radio from Little America. Its remarkable accuracy was later spoken of by Rear Admiral Richard E. Byrd, head of the expedition.

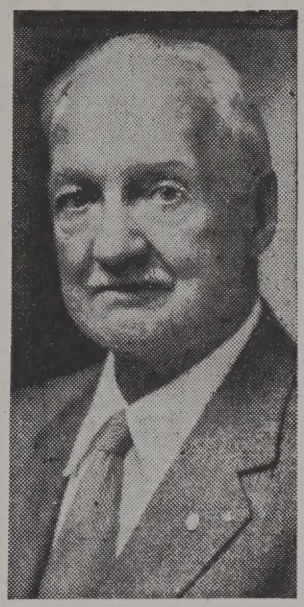
Mr. Walrath was known by his colleagues as "Omy," a nickname that grew out of their habit of calling him "Omar the map maker."

A Founder of Polar Society

Although Mr. Walrath never had been a polar explorer he was, with August Howard, a founder of the American Polar Society in 1934. This society is composed of persons who have taken part in or are otherwise interested in explorations in the region of either pole. It is both scientific and social in nature, and publishes a semi-annual journal, The Polar Times. Mr. Walrath was a vice president of the society, 1935-39, and president, 1940-45. He had been treasurer since.

Mr. Walrath was born in Brooklyn and attended high school there. His interest in maps was first aroused by his Sunday school teacher, a map maker. Mr. Walrath was a Federal Customs employe at Ellis Island as a young man, and served seven-year apprenticeship to a Brooklyn map maker. He then joined C. S. Hammond & Co., map publishers in New York, as a cartographer, and later worked for another New York map-making concern.

In 1914-19 he was a partner in Manhattan in the Universal Map Company. After that, he did part-time mapmaking for The Times and other concerns until March 30, 1925, when he joined The Times as a full-time cartographer. In 1944-48, he was



Russell J. Walrath

this newspaper's chief cartographer. He taught the fine points of his craft to many other Times cartographers.

Mr. Walrath had lectured on cartography at Cornell University and before various clubs and other groups. His maps illustrate textbooks and volumes by polar explorers.

In 1939, he brought to the Philadelphia Navy Yard a series of rare maps and charts he had obtained and which were used in a Byrd Antarctic expedition for the Government.

Maps made by Mr. Walrath were used by American aviators in World War I, glued to their legs for convenience and quick destruction in case of capture.

Surviving, besides his son, are his widow, Mrs. Lillian Howard Walrath; a daughter, Miss I. Gertrude Walrath of Metúchen, and two grandchildren.

W. N. BEACH, HUNTED BIG GAME IN ALASKA

KINGS POINT, L. I., May 5—William N. Beach, who had hunted extensively in the Alaska Range region, died today in his home here at the age of 82.

He made sixteen trips to Alaska and was the author of a book, "In the Shadow of Mount McKinley," published in 1932. Mr. Beach was a former president of the Camp Fire Club.

He was born in New York and graduated from Yale in 1892. Mr. Beach had headed, successively, the Lawrenceville, Rosendale and Pennsylvania cement companies. He retired in 1926.

In 1936 he went on an expedition with J. Watson Webb to collect moose and caribou for the Smithsonian Institution.

BISHOP TURQUETIL, 'ESKIMO'S APOSTLE'

WASHINGTON, June 15—The Most Rev. Arsene Turquetil, former Vicar Apostolic of Hudson Bay, died last night in Georgetown Hospital at the age of 79.

A member of the Oblate order, Bishop Turquetil was born in France and was ordained to the priesthood in 1899. The next year, he was assigned to the vicariate of Saskatchewan in Canada. There he began the life work that earned for him the name of "the Apostle of the Eskimo."

Bishop Turquetil's first permanent mission among the Eskimos was established in 1912 at Chesterfield Inlet, where he worked for five years without making a single convert. But in 1917 the mission began to flourish. By 1925 his influence was so far-reaching in the Hudson Bay Territory that it was made a separate prefecture under his charge.

The prefecture, largest in the world, stretched from the Atlantic across Labrador, Hudson's Bay and Northern Manitoba. On the east and west its limits ran northward through the Arctic Ocean to the North Pole.

In this area, Bishop Turquetil supervised the care of some 4,200 Eskimos. He built a three-story hospital at Chesterfield Inlet in 1931 and had established a number of new missions throughout the territory before he retired in 1943. He resided in the Oblate Scholasticate here from that time until his death.

SGT. F. S. FARRAR IS DEAD

Canadian Said to Be First to Circumnavigate Continent

OTTAWA, Feb. 9—(Canadian Press)—Sgt. F. S. (Ted) Farrar of the Royal Canadian Mounted Police, said to have been the first man to circumnavigate the North American continent, died yesterday of a heart attack. He was 53 years old.

The native of Liverpool, England, he had participated in Northwest Passage voyages of the R. C. M. P. schooner, St. Roch.

The Royal Police credited Sergeant Farrar with the distinction of being the first person to circumnavigate the North American continent. A British naval cadet, he came to Canada in 1929, went into the R. C. M. P. the same year and in 1930 was posted to the schooner, St. Roch, supplying northern detachments.

The counter-clockwise circumnavigation began in July 1944, at Halifax, N. S., and ended at Vancouver, B. C., that October.

After a period of duty in Ottawa, Sergeant Farrar set sail aboard the St. Roch at Vancouver in 1950 for a trip to Halifax via the Panama Canal. The schooner did it in forty-one days.

LAWRENCE MARTIN, CARTOGRAPHER, 75

WASHINGTON, Feb. 13 (AP)—Col. Lawrence Martin, a geographer and former chief of the Map Division of the Library of Congress, died today after a long illness. His age was 75.

He was the author of several publications and a Professor of Geography at the University of Wisconsin when he entered the military service during World War I. Later he was chosen by President Woodrow Wilson to assist at the Paris Peace Conference in re-mapping Europe.

Earlier in his career, Mr. Martin had become an authority on glacial studies in Alaska. He was consultant for the United States Supreme Court and international tribunals in settling boundary disputes between Guatemala and Honduras, Peru and Bolivia and Wisconsin and Michigan.

During World War II, he devoted much of his time to providing a map service to help keep the public informed on the progress of the war. He was assigned to the Office of Strategic Services.

VANCOUVER PLANS CRAFT AS MUSEUM

VANCOUVER, B. C., June 25—The only ship to sail the Northwest Passage in both directions, the Royal Canadian Mounted Police craft St. Roch, will be set up in Kitsilano Park here as a marine museum.

After months of indecision, the City Council and Park Board Commission decided that the eighty-ton, 104-foot vessel should be beached to keep teredos from going to work on the hull. The city bought her from the Mounted Police last October for $5,000, at the end of her final run. This was an eighty-two day trip via the Panama Canal, from Halifax, N. S., which made the St. Roch the only ship ever to have circumnavigated the North American Continent.

There had been discussion about leaving the famous patrol vessel moored at some suitable point in the city's harbor. But teredos, a type of marine worm infesting the harbor, have done such great damage to ships' hulls and pier pilings in the past that it was decided to pull her up onto dry land.

The St. Roch's retirement ends an era of Arctic history going back to 1928, when she was launched here. For many years she was commanded by Inspector Henry A. Larsen, one of the Mounted Police's most experienced far northern officers.

It was under his command that she made the first west to east trip through the Northwest Passage, leaving Vancouver in 1940 and reaching Halifax in 1942. Two years later Inspector Larsen brought her back over the same historic route.

Radiophoto of The New York Times (by Walter Sullivan)

Norman Bright of Dayton, Ohio, Air Force observer, wields a traveling bag as he taunts a sleepy seal in Admiral Byrd Bay and gets a violent reaction. The Atka, which has completed exploration of Antarctic, is moored to bay ice in rear.

A seaman pursues some penguins. When aroused from their slumber, the birds stood erect and glared at the intruders. As the sailors approached, the quarry broke into a waddling run and well-timed flying tackles were needed to bring down the birds. When hard-pressed, a penguin flops on his belly and slides swiftly across the icy surface.